Subscription Version ID

RR5-23.1 Disconnect Subscription Version - Required Input Data

NPAC SMS shall require the following input data upon a Subscription Version disconnect:

- Customer Disconnect Date - Date upon which the customer's service is disconnected

RR5-23.2 Disconnect Subscription Version - Optional Input Data

NPAC SMS shall accept the following optional input data upon a Subscription Version disconnect:

- Effective Release Date - Future date upon which the disconnect should be broadcast to all Local SMSs

RN5-10 Disconnect Subscription Version - Invocation by Current Service Provider

NPAC SMS shall allow only NPAC personnel or the Current Service Provider to invoke the functionality to disconnect a Subscription Version

R5-63 Disconnect Subscription Version - Invalid Status Notification

NPAC SMS shall send an appropriate error message to the originating user that the Subscription Version is not active in the network and cannot be disconnected or set to disconnect pending if there is no Subscription Version with a status of active

R5-64.1 Disconnect Subscription Version - Cancel Other Version Notification

NPAC SMS shall notify the originating user that the active Subscription Version cannot be disconnected if a version of that subscription version with a status other than canceled or old exists

RR5-48 Disconnect Pending Subscription Version- Creation of Old Subscription Version

DELETED

RR5-49 Disconnect Pending Subscription Version- Old Subscription Version No Broadcast

DELETED

RR5-212 Disconnect "Intra-Service Provider Port" Subscription Version – Service Provider Tunable Value of TRUE for Pseudo-LRN Request

NPAC SMS shall accept a Subscription Version Disconnect request for a pseudo-LRN record from a Service Provider SOA only when the NPAC Customer SOA Pseudo-LRN Indicator is set to TRUE (previously NANC 442, Req 78)

RR5-24 Disconnect Subscription Version -Set to Disconnect Pending

NPAC SMS shall set the status of a Subscription Version to disconnect pending upon a Subscription Version disconnect request when an effective release date is specified

RR5-25.1 Disconnect Subscription Version - Disconnect Pending Status Notification

NPAC SMS shall inform the current Service Provider when the status of a Subscription Version is set to Disconnect Pending

RR5-25.2 Disconnect Subscription Version - Customer Disconnect Date Notification

NPAC SMS shall notify the new Service Provider (donor) of the Subscription Version Customer Disconnect Date and Effective Release Date immediately prior to broadcasting a Subscription Version disconnect

Note: If the Effective Release Date is not specified in the Disconnect Request from the current Service Provider, the Effective Release Date will be populated with the same value as the Customer Disconnect Date

R5-65.1 Disconnect Subscription Version -Immediate Broadcast

NPAC SMS shall immediately proceed with the broadcasting of the disconnect after the Customer Disconnect Date notification is sent if no Effective Release Date was specified with the request

R5-65.2 Disconnect Subscription Version - Deferred Broadcast

NPAC SMS shall proceed with the broadcasting of the disconnect when the specified Effective Release Date is reached if an Effective Release Date was specified with the request

R5-65.4 Disconnect Subscription Version - Broadcast Interface Message to Local SMSs

NPAC SMS shall broadcast the disconnect Subscription Version message to the Local SMSs that are accepting Subscription Version data downloads for the given NPA-NXX via the NPAC SMS-to-Local SMS Interface

RR5-213 Disconnect Subscription Version - Local SMS Identification – Pseudo-LRN

NPAC SMS shall determine which Local SMSs to send the Subscription Version to by identifying all Local SMSs, using the Service Provider's Pseudo-LRN Accepted SPID List, that are accepting Subscription Version data downloads of pseudo-LRN data (previously NANC 442, Req 33)

R5-65.5 Disconnect Subscription Version - Disconnect Broadcast Date and Time Stamp

NPAC SMS shall record the current date and time as the disconnect broadcast date and time stamp upon sending of disconnect messages to the Local SMSs

R5-65.6 Disconnect Subscription Version - Set to Sending

NPAC SMS shall set a Subscription Version status to sending upon sending the disconnect messages to the Local SMSs

R5-66.2 Disconnect Subscription Version Complete - Set Disconnect Complete Date

NPAC SMS shall update the Disconnect Complete timestamp of the previously active Subscription Version upon completion of the broadcast, and the FIRST successful response from a Local SMS

R5-66.3 Disconnect Subscription Version Complete - Set Disconnect to Old

NPAC SMS shall set the disconnect Subscription Version to old if a successful response from at least one Local SMS is returned

R5-66.4 Disconnect Subscription Version Complete – Status Update of SV

NPAC SMS shall update the status of the disconnect Subscription Version upon completion of the Deletion broadcast, and a response from ALL Local SMSs, or retries are exhausted

RR5-214 Disconnect "Intra-Service Provider Port" Subscription Version – Send Notification of Disconnect of Pseudo-LRN Record

NPAC SMS shall send a notification to the current Service Provider when a Subscription Version is set to old upon disconnection of a Subscription Version for an Intra-Service Provider port of a pseudo-LRN record only if the NPAC Customer SOA Pseudo-LRN Indicator is set to TRUE and the NPAC Customer SOA Pseudo-LRN Notification Indicator is set to TRUE (previously NANC 442, Req 35)

R5-67.1 Disconnect Subscription Version - Set Status to Active

NPAC SMS shall set the status of the disconnect Subscription Version to active if the disconnect fails in all the Local SMSs to which it was sent

R5-67.2 Disconnect Pending Subscription Version - Failure Notification

NPAC SMS shall notify the NPAC SMS System Administrator when a disconnect Subscription Version fails in all of the Local SMSs

R5-67.3 Disconnect Subscription Version - Resend Disconnect Requests to All Local SMSs

NPAC SMS shall provide authorized NPAC SMS personnel with the functionality to resend all failed disconnect requests to the Local SMSs

R5-68.1 Disconnect Subscription Version - Subscription Disconnect Retry Attempts - Tunable Parameter

NPAC SMS shall allow the NPAC SMS Administrator to modify the Subscription Disconnect Retry Attempts tunable parameter, which is defined as the number of times the NPAC SMS will resend a disconnect message to an unresponsive Local SMS

R5-68.2 Disconnect Pending Subscription Version - Subscription Disconnect Retry Attempts - Tunable Parameter Default

NPAC SMS shall default the Subscription Disconnect Retry Attempts tunable parameter to 3 times

R5-68.3 Disconnect Subscription Version - Subscription Disconnect Retry Interval - Tunable Parameter

NPAC SMS shall allow the NPAC SMS Administrator to modify the Subscription Disconnect Retry Interval tunable parameter, which is defined as the amount of time that shall elapse between disconnect retries

R5-68.4 Disconnect Subscription Version - Subscription Disconnect Retry Interval - Tunable Parameter Default

NPAC SMS shall default the Subscription Disconnect Retry Interval tunable parameter to 2 minutes

R5-68.5 Disconnect Subscription Version - Retry Processing

NPAC SMS shall resend a Subscription Version disconnect message a Subscription Disconnect Retry Attempts tunable parameter number of times to a Local SMS that has not acknowledged the receipt of a disconnect once the Subscription Disconnect Retry Interval tunable parameter expires

R5-68.6 Disconnect Subscription Version - Sending Status during Retries

NPAC SMS shall retain the status for the Subscription Version being disconnected as sending until the Subscription Disconnect Retry Attempts tunable parameter period expires for all Local SMSs, or until all Local SMSs have acknowledged the disconnect

R5-68.7 Disconnect Subscription Version - Retry Failed

NPAC SMS shall consider the disconnect Subscription Version request to have failed at a specific Local SMS after the Subscription Disconnect Retry Attempts tunable parameter count for the specific Local SMS has been exhausted

R5-68.8 Disconnect Subscription Version - Failure Notification after Retries Complete

NPAC SMS shall send a list of the Local SMSs where the disconnect request failed to the NPAC SMS System Administrator after every local SMS has either succeeded or failed with the disconnect

R5-68.9 Disconnect Subscription Version - Set to Old

NPAC SMS shall set the disconnect Subscription Version status to old if the disconnect request failed at one or more, but not all, of the Local SMSs

R5-68.10 Disconnect Subscription Version - Resend Disconnect Requests to Failed Local SMSs

NPAC SMS shall provide authorized NPAC SMS personnel with the functionality to resend disconnect requests to all Local SMSs that failed to register the disconnect request

RR5-63 Disconnect Subscription Version or Port-To-Original – Pooled Number Block Default Routing Restoration

The NPAC SMS shall reinstate the Block default routing, block holder Service Provider Id and the LNP Type to POOL for a subscription version upon a disconnect for a ported TN, or an activate for a Port-To-Original TN, belonging to the 1K Block, once the Block exists in the NPAC SMS, except for a status of Old, with or without a Block Failed SP List (Previously SV-390)

RR5-64 Disconnect Subscription Version - Customer Disconnect Date Notification for Pooled Number

NPAC SMS shall notify the Block Holder of the Subscription Version Customer Disconnect Date and Effective Release Date, for a ported pooled Subscription Version that is being disconnected, prior to reinstating the default routing (Previously SV-400)

RR5-65 Disconnect Subscription Version – Broadcast of Subscription Data Creation

DELETED

RR5-66 Disconnect Subscription Version – Broadcast of Subscription Data Deletion

The NPAC SMS shall broadcast a Subscription Version Delete to a Local SMS, upon a disconnect of a ported pooled Subscription Version, where the TN is within the 1K Block (Previously SV-420)

RR5-67.1 Disconnect Subscription Version – Updates to the Status for Disconnect

NPAC SMS shall update the ***Status*** of the individual subscription version(s) broadcast to the Local SMSs, upon completion of the disconnect broadcast to ALL Local SMSs (Previously SV-422 1)

RR5-67.2 Disconnect Subscription Version – Setting of the Status for Disconnected SV

NPAC SMS shall, upon broadcasting the ***delete*** of the Subscription Version to Local SMSs, set the status of the Subscription Version being ***disconnected*** to: (Previously SV-422 2)

- Active, if ALL Local SMSs, fail the broadcast
- Old, for all other cases

RR5-67.3 Disconnect Subscription Version – Setting of the Status for Newly Created SV

NPAC SMS shall, upon broadcasting the ***delete*** of the Subscription Version to Local SMSs, set the status of the Subscription Version being ***created to reinstate default routing*** to: (Previously SV-422 3)

- Active, if all Local SMSs, respond successfully to the broadcast
- Failed, if all Local SMSs, fail the broadcast, or retries are exhausted
- Partial Failure, for all other cases

RR5-68.1 Disconnect Subscription Version – Updates to the Status for Port-to-Original

NPAC SMS shall update the Status of the individual subscription version(s) broadcast to the Local SMSs, and the individual subscription version(s) representing the port-to-original request, upon completion of the Port-To-Original broadcast to ALL Local SMSs (Previously SV-423 1)

RR5-68.2 Disconnect Subscription Version – Setting of the Status for Port-to-Original SV

NPAC SMS shall, upon broadcasting the ***delete*** of the Subscription Version to Local SMSs, set the status of the Subscription Version being ***ported-to-original*** to: (Previously SV-423 2)

- Old, if ALL Local SMSs, respond successfully to the broadcast
- Failed, if ALL Local SMSs, fail the broadcast, or retries are exhausted
- Partial Failure, for all other cases

RR5-68.3 Disconnect Subscription Version – Setting of the Status for Port-to-Original SV that was active prior to the PTO activation request

NPAC SMS shall, upon broadcasting the ***delete*** of the Subscription Version to Local SMSs, set the status of the previously active Subscription Version being ***disconnected due to the port-to-original request*** to: (Previously SV-423 3)

- Active, if ALL Local SMSs, fail the broadcast
- Old, for all other cases

RR5-68.4 Disconnect Subscription Version – Setting of the Status for Port-to-Original for Newly Created SV

NPAC SMS shall, upon broadcasting the ***delete*** of the Subscription Version to Local SMSs, set the status of the Subscription Version being ***created to reinstate default routing for the port-to-original request*** to: (Previously SV-423 4)

- Active, if all Local SMSs, respond successfully to the broadcast
- Failed, if all Local SMSs, fail the broadcast, or retries are exhausted
- Partial Failure, for all other cases

RR5-69 Disconnect Subscription Version – Updates to the Failed SP List for Disconnect

NPAC SMS shall update the ***Subscription Version Failed SP List*** of the individual subscription version(s) that were broadcast to the Local SMSs with the discrepant Local SMS(s), upon completion of the broadcast of the ***delete*** of the Subscription Version(s) to Local SMSs (Previously SV-425)

Note: The NPAC SMS will roll up the Subscription Version Failed SP List so that the SV that was active prior to the disconnect request (SV1) contains the Failed SP List for both SV1 and SV2, as defined in the IIS Message Flows for Disconnect of a Ported Pooled Number

RR5-70 Disconnect Subscription Version – Updates to the Failed SP List for Port-To-Original

NPAC SMS shall update the ***Subscription Version Failed SP List*** of the individual subscription version(s) that were sent up in the Port-to-Original Activate request by the SOA with the discrepant Local SMS(s), upon completion of the broadcast of the ***delete*** of the Subscription Version(s) to Local SMSs (Previously SV-426)

Note: The NPAC SMS will roll up the Subscription Version Failed SP List so that the SV that was active prior to the port-to-original activate request (SV2) contains the Failed SP List for both SV1 and SV3, as defined in the IIS Message Flows for a Port-To-Original of a Ported Pooled Number

5.1.2.2.6 Subscription Version Cancellation

This section provides the requirements for the Subscription Version Cancellation functionality (including "un-do" of a 'cancel-pending' Subscription Version), which is executed upon the NPAC personnel or SOA-to-NPAC SMS interface user requesting to cancel a Subscription Version The CMIP Interface uses both a Cancel Request message and a Cancel Acknowledgement message (optionally can use a Cancel Request message in lieu of a Cancel Acknowledgement message) The XML Interface uses the Cancel Request message for both requests and acknowledgements

RR5-26.1 Cancel Subscription Version - Inform Both Service Providers of Cancel Pending Status

NPAC SMS shall inform both old and new Service Providers when the status of a Subscription Version is set to cancel pending for an Inter-Service Provider port

R5-69 Cancel Subscription Version - Version Identification

NPAC SMS shall receive the following data from the NPAC personnel to identify a Subscription Version to be canceled:

Ported Telephone Number (or a specified range of numbers)

or

Subscription Version ID

R5-70 Cancel Subscription Version - Invalid Status Notification

NPAC SMS shall accept a cancel request for a Subscription Version for the following statuses, and will return an appropriate error message to the originating user for any status not listed below:

- Pending (CMIP and XML)
- Conflict (CMIP and XML)
- Disconnect-Pending (CMIP and XML)
- Cancel-Pending (CMIP and XML)

RR5-27 Cancel Subscription Version - Validate Service Provider

NPAC SMS shall send an appropriate error message to the originating user if the originating user is neither the New nor the Old Service Provider in the existing Subscription Version upon Subscription Version cancellation

R5-71.2 Cancel Subscription Version - Set Cancellation Date and Time Stamp

NPAC SMS shall set the Subscription Version cancellation date and time to current upon setting the Subscription Version status to canceled

R5-71.3 Cancel Subscription Version- Set to Cancel Old Service Provider only

NPAC SMS shall set the subscription version status to cancel upon receiving a cancellation from the old Service Provider if the New Service Provider has not sent a subscription version create

R5-71.4 Cancel Subscription Version- Set to Cancel New Service Provider only

NPAC SMS shall set the subscription version status to cancel upon receiving a cancellation from the New Service Provider if the Old Service Provider has not sent an subscription version create

R5-71.5 Cancel Subscription version- Error on Cancellation

NPAC SMS shall return an error if a Service Provider sends a cancellation for a subscription version that has not been created by that Service Provider

R5-71.6 Cancel Subscription Version- Set Pending subscription version to Cancel Pending Status Inter-Service Provider port

NPAC SMS shall set the subscription version status to Cancel Pending upon receiving a cancellation from either the Old or New Service Provider for a subscription version with a pending status (both Service Providers have done a create) for an Inter-Service Provider or Port to original port

R5-71.8 Cancel Subscription Version- Set Conflict Subscription to Cancel New Service Provider only

NPAC SMS shall set the subscription version status to cancel upon receiving a cancellation from the new Service Provider on a subscription in conflict that was previously in cancel pending and for which only the old service provider has sent a cancellation acknowledgment

R5-71.9 Cancel Subscription Version - Rejection of Old Service Provider Conflict Cancellation

NPAC SMS shall return an error to the Old Service Provider if they attempt to cancel a Subscription Version that is in conflict due to lack of New Service Provider cancellation concurrence on a subscription version that was previously in cancel pending state

R5-71.10 Cancel Subscription Version- Set Disconnect Pending subscription version to Active

NPAC SMS shall set the subscription version status to Active upon receiving a cancellation for a subscription version with a status of disconnect pending

R5-71.11 Cancel Subscription Version- Set to Cancel Status - Intra-Service Provider port

NPAC SMS shall set the subscription version status to cancel upon receiving a cancellation from the current Service Provider for an Intra-Service Provider port

RR5-28.1 Cancel Subscription Version - Set to Cancel After Service Provider Acknowledge

NPAC SMS shall set the Subscription Version status to cancel upon receiving cancellation pending acknowledgment from the Service Provider that did not initiate the cancellation for an Inter-Service Provider port

RR5-29.1 Cancel Subscription Version - Inform Both Service Providers of Cancel Status

NPAC SMS shall notify both old and new Service Providers after a Subscription Version's status is set to canceled for an Inter-Service Provider port

RR5-29.2 Cancel Subscription Version - Inform Current Service Provider of Cancel Status

NPAC SMS shall notify the current Service Provider after a Subscription Version's status is set to canceled for an Intra-Service Provider port

RR5-30 Cancel Subscription Version Acknowledgment - Update Old Service Provider Date and Time Stamp

NPAC SMS shall update the old Service Provider cancellation date and time stamp with the current date and time when the cancellation acknowledgment is received from the old Service Provider

RR5-31 Cancel Subscription Version Acknowledgment - Update New Service Provider Date and Time Stamp

NPAC SMS shall update the new Service Provider cancellation date and time stamp with the current date and time when the cancellation acknowledgment is received from the new Service Provider

RR5-32.1 Cancellation-Initial Concurrence Window - Tunable Parameter

NPAC SMS shall provide long and short Cancellation-Initial Concurrence Window tunable parameters, which are defined as the number of business hours after the version is set to Cancel Pending by which the non-originating Service Provider is expected to acknowledge the pending cancellation

RR5-32.2 Cancellation-Initial Concurrence Window - Tunable Parameter Modification

NPAC SMS shall allow the NPAC SMS Administrator to modify the long and short Cancellation-Initial Concurrence Window tunable parameters

RR5-32.3 Long Cancellation-Initial Concurrence Window - Tunable Parameter Default

NPAC SMS shall default the long Cancellation-Initial Concurrence Window tunable parameter to 9 business hours

RR5-32.4 Short Cancellation-Initial Concurrence Window - Tunable Parameter Default

NPAC SMS shall default the short Cancellation-Initial Concurrence Window tunable parameter to 9 business hours

RR5-33.1 Cancellation-Final Concurrence Window - Tunable Parameter

NPAC SMS shall provide long and short Cancellation-Final Concurrence Window tunable parameters which are defined as the number of business hours after the second cancel pending notification is sent by which both Service Providers are expected to acknowledge the pending cancellation

RR5-33.2 Cancellation-Final Concurrence Window Tunable Parameter Modification

NPAC SMS shall allow the NPAC SMS Administrator to modify the long and short Cancellation-Final Concurrence Window tunable parameters

RR5-33.3 Long Cancellation-Final Concurrence Window - Tunable Parameter Default

NPAC SMS shall default the long Cancellation-Final Concurrence Window tunable parameter to 9 business hours

RR5-33.4 Short Cancellation-Final Concurrence Window - Tunable Parameter Default

NPAC SMS shall default the short Cancellation-Final Concurrence Window tunable parameter to 9 business hours

RR5-34 Cancellation-Initial Concurrence Window - Tunable Parameter Expiration

NPAC SMS shall send a notification to the Service Provider (new or old) who has not yet acknowledged the cancel pending status when the Cancellation-Initial Concurrence Window tunable parameter expires

RR5-35.1 Cancellation-Final Concurrence Window - Tunable Parameter Expiration New Service Provider

NPAC SMS shall set the Subscription Version status to conflict when the NPAC SMS has not received the cancellation acknowledgment from the new Service Provider and the Cancellation-Final Concurrence Window tunable parameter has expired

RR5-35.2 Cancellation-Final Concurrence Window - Tunable Parameter Expiration Old Service Provider

NPAC SMS shall set the Subscription Version status to cancel and set the cause code to "NPAC SMS automatic cancellation" when the NPAC SMS has not received the cancellation acknowledgment from the Old Service Provider and the Cancellation-Final Concurrence Window tunable parameter has expired

RR5-36.1 Cancel Subscription Version – Cause Code for New SP Timer Expiration

NPAC SMS shall set the cause code to "NPAC SMS Automatic Conflict from Cancellation" after setting the Subscription Version status to conflict from cancel-pending when the new Service Provider has not acknowledged the cancellation and after the Cancellation-Final Concurrence Window has expired (previously NANC 138, Req 1)

RR5-36.2 Cancel Subscription Version - Inform Service Providers of Conflict Status

NPAC SMS shall notify the old and new Service Providers upon setting a cancel-pending Subscription Version to conflict after the expiration of the Initial and Final Cancellation Concurrence Window tunables

Note: If the cause code value is set to "NPAC SMS Automatic Conflict from Cancellation", and the Service Provider does NOT support this cause code, the existing message will be unchanged

RR5-140 Cancel-Pending-to-Conflict Cause Code Indicator

Deleted, Renumbered to RR6-205

RR5-141 Cancel-Pending-to-Conflict Cause Code Indicator Default

Deleted, Renumbered to RR6-206

RR5-142 Cancel-Pending-to-Conflict Cause Code Indicator Modification

Deleted, Renumbered to RR6-207

RR5-165 Regional Automatic Conflict Cause Code Tunable

NPAC SMS shall provide a Regional Automatic Conflict tunable parameter, which is defined as an indicator on whether or not the automatic conflict cause code functionality is supported by the NPAC SMS for a particular NPAC Region (previously NANC 138, Req 4)

RR5-166 Regional Automatic Conflict Cause Code Tunable Default

NPAC SMS shall default the Regional Automatic Conflict Cause Code tunable parameter to TRUE (previously NANC 138, Req 5)

RR5-167 Regional Automatic Conflict Cause Code Tunable Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Regional Automatic Conflict Cause Code tunable parameter (previously NANC 138, Req 6)

5.1.2.2.6.1 Un-do a "Cancel-Pending" Subscription

RR5-143 Un-Do a Cancel-Pending Subscription Version – Notification

NPAC SMS shall inform both Old and New Service Providers when the status of a Subscription Version is set from cancel-pending back to pending, or from cancel-pending back to conflict for an Inter-Service Provider port (previously NANC 388, Req 1)

RR5-144 Un-Do a Cancel-Pending Subscription Version – Request Data

NPAC SMS shall receive the following data from the Old or New Service Provider to identify a Subscription Version to have a cancel request retracted:

- Ported TN (or a specified range of numbers)
- Subscription Version ID
- Version Status (if TN or TN range is specified, must be cancel-pending)
- New Version Status (can be only pending, in order for it to be returned to a pending-like status), (applies only to the CMIP interface, not the XML interface)

(previously NANC 388, Req 2)

RR5-164 Un-Do a Cancel-Pending Subscription Version – New Status Specified Error

NPAC SMS shall send an appropriate error message to the originating user that requests a cancellation retraction for a subscription version, if the new version status specified in the request is not pending (previously NANC 388, Req 2 5)

RR5-145 Un-Do a Cancel-Pending Subscription Version – Version Status Error

NPAC SMS shall send an appropriate error message to the originating user that requests a cancellation retraction for a subscription version, if the current version status is not cancel-pending (previously NANC 388, Req 3)

RR5-146 Un-Do a Cancel-Pending Subscription Version – SP Error

DELETED

RR5-147 Un-Do a Cancel-Pending Subscription Version – Timestamp

NPAC SMS shall set the Subscription Version modification date and time to current upon setting the Subscription Version status back to pending or conflict (previously NANC 388, Req 5)

RR5-148 Un-Do a Cancel-Pending Subscription Version – Missing Create Error

DELETED

RR5-149 Un-Do a Cancel-Pending Subscription Version – Missing Cancel Error

NPAC SMS shall return an error if a Service Provider sends a cancellation retraction for a subscription version that has not been cancelled by that Service Provider (previously NANC 388, Req 7)

RR5-150 Un-Do a Cancel-Pending Subscription Version – Status Change

NPAC SMS shall set the subscription version status to Pending or Conflict, returning the status to the same value as prior to the cancellation that caused it to go into cancel-pending, upon receiving a cancellation retraction from either the Old or New Service Provider for a subscription version with a cancel-pending status (both Service Providers have done a create) for an Inter-Service Provider or Port to original port (previously NANC 388, Req 8)

5.1.2.2.7 Subscription Version Resend

This section provides the requirements for the Subscription Version resend functionality, which is executed upon the NPAC personnel requesting to resend a Subscription Version

RR5-38.1.1 Resend Subscription Version - Identify Subscription Version

NPAC SMS shall receive the following data from NPAC personnel to identify a subscription version that contains a Failed SP List with one or more SPIDS, to be resent:

Ported Telephone Number

or

Subscription Version ID

RR5-38.1.2 Resend Subscription Version – Identify Multiple Subscription Versions

NPAC SMS shall require NPAC personnel to specify a TN Range (NPA-NXX-xxxx through yyyy, where yyyy is greater than xxxx) to identify multiple subscription versions that contain a Failed SP List with one or more SPIDS, to be resent

RR5-38.2 Resend Subscription Version - Input Data

NPAC SMS shall require the following input data from NPAC personnel upon a Subscription Version resend:

- List of "failed" Local SMSs to resend to

RR5-38.3 Resend Subscription Version - Error Message

NPAC SMS shall send an error message to the originating user upon Subscription Version resend if the version does not have a list of failed LSMSs associated with the subscription's last operation

RR5-38.4 Resend Subscription Version - Activation Request

NPAC SMS shall resend a Subscription Version activation request, if the Subscription Version previously failed activation, to the designated list of failed Local SMSs via the NPAC SMS-to-Local SMS Interface upon a Subscription Version resend request

RR5-38.5 Resend Subscription Version - Disconnect Request

NPAC SMS shall resend a Subscription Version disconnect request, if the Subscription Version previously failed disconnect, to the designated list of failed Local SMSs via the NPAC SMS-to-Local SMS Interface upon a Subscription Version resend request

RR5-38.6 Resend Subscription Version - Failed or Partial Failure

NPAC SMS shall set a failed or partial failure Subscription Version to sending subsequent to resending to the Local SMSs via the NPAC SMS-to-Local SMS Interface

RR5-38.7 Resend Subscription Version - Standard Activation Processing

NPAC SMS shall proceed with the standard activation processing subsequent to resending a Subscription Version activation request to the Local SMSs via the NPAC SMS-to-Local SMS Interface

RR5-38.8 Resend Subscription Version - Standard Disconnect Processing

NPAC SMS shall proceed with the standard disconnect processing subsequent to resending a Subscription Version disconnect request to the Local SMSs via the NPAC SMS-to-Local SMS Interface

RR5-38.9 Resend Subscription Version – Modify Active Request

NPAC SMS shall resend a Subscription Version modify active request, if an active Subscription Version previously failed modification, to the designated list of failed Local SMSs via the NPAC SMS-to-Local SMS Interface upon a Subscription Version resend request

RR5-38.10 Resend Subscription Version - Standard Modify Active Processing

NPAC SMS shall proceed with the standard modify active processing subsequent to resending a Subscription Version modify request to the Local SMSs via the NPAC SMS-to-Local SMS Interface

RR5-71 Re-Send of Number Pooling Subscription Version Information – NPAC Personnel OpGUI

NPAC SMS shall prevent NPAC Personnel from re-sending a Subscription Version with LNP Type of POOL, via the NPAC Administrative Interface (Previously SV-451)

RR5-72 Re-Send of Number Pooling Subscription Version Information – Subscription Versions sent to discrepant non-EDR Local SMS

DELETED

RR5-73 Re-Send of Number Pooling Subscription Version Information – Sending Status Update to Failed Subscription Versions for Block Activation

NPAC SMS shall update the ***status*** of the failed Subscription Versions with LNP Type of POOL in the 1K Block, at the start of the re-send to the Local SMSs, from a failed status to a sending status (Previously SV-460)

RR5-74 Re-Send of Number Pooling Subscription Version Information – Sending Status Update to Partial failure Subscription Versions for Block Activation

NPAC SMS shall update the ***status*** of the partial failure Subscription Versions with LNP Type of POOL in the 1K Block, at the start of the re-send to the Local SMSs, from a partial failure status to a sending status (Previously SV-470)

RR5-75 Re-Send of Number Pooling Subscription Version Information – Sending Status Update to Active Subscription Version for Block Modification or Deletion

NPAC SMS shall update the ***status*** of the active Subscription Version with LNP Type of POOL in the 1K Block, with a Failed SP List, at the start of the re-send to the Local SMSs, from an active status to a sending status (Previously SV-480)

RR5-76 Re-Send of Number Pooling Subscription Version Information – Sending Status Update to Old Subscription Version for Block Deletion

NPAC SMS shall update the ***status*** of the old Subscription Version with LNP Type of POOL in the 1K Block, with a Failed SP List, at the start of the re-send to the Local SMSs, from an old status to a sending status (Previously SV-490)

RR5-77 Re-Send of Number Pooling Subscription Version Information – Update to Failed SP List

NPAC SMS shall update the ***Subscription Version Failed SP List*** of the Subscription Version(s) with LNP Type of POOL in the 1K Block, by removing the previously failed Local SMS, upon a successful re-send to a previously failed Local SMS (Previously SV-510)

RR5-78 Re-Send of Number Pooling Subscription Version Information –Status Update to Subscription Version after Re-Send

NPAC SMS shall update the ***status*** of the Subscription Version(s) and the Block, specified in the re-send request for a Block Creation, Modification, or Deletion, at the completion of the re-send to the Local SMS, and a response from the Local SMS or if retries have been exhausted, from a sending status, as defined in RR3-137 1, RR3-137 2 RR3-137 3, and RR3-137 4 (Previously SV-515)

RR5-79 Re-Send of Number Pooling Subscription Version Information –Failed SP List Update to Subscription Version after Re-Send

NPAC SMS shall update the ***Subscription Version Failed SP List*** of the Subscription Version(s) with LNP Type of POOL in the 1K Block, specified in the re-send request for a Block Creation, Modification, or Deletion, at the completion of the re-send to the Local SMS, and a response from the Local SMS, or if retries have been exhausted, as defined in RR3-138 1 and RR3-138 2 (Previously SV-516)

RR5-80 Re-Send of Subscription Version Information – Disconnect or Port-To-Original of a TN within a Pooled 1K Block

DELETED

RR5-81.1 Re-Send of Subscription Version Information – Disconnect TN within a Pooled 1K Block to Local SMS

NPAC SMS shall, for a re-send of a disconnect Subscription Version of a ported pooled TN, where the TN is contained within a Pooled 1K Block, re-broadcast the Delete request of the Subscription Version that was active prior to the disconnect broadcast to a discrepant Local SMS (Previously SV-519 1)

Note: The NPAC SMS will re-send an M-DELETE, to a Local SMS, of the Subscription Version (SV1) that was active prior to the disconnect request (SV2), as defined in the IIS Message Flows for Disconnect of a Ported Pooled Number

RR5-81.2 Re-Send of Subscription Version Information – Disconnect TN within a Pooled 1K Block to non-EDR Local SMS

DELETED

RR5-82.1 Re-Send of Subscription Version Information –Port-To-Original TN within a Pooled 1K Block to Local SMS

NPAC SMS shall, for a re-send of a Port-To-Original Subscription Version of a ported pooled TN, where the TN is contained within a Pooled 1K Block, re-broadcast the Delete request of the Subscription Version that was active prior to the Port-To-Original broadcast to a discrepant Local SMS (Previously SV-520 1)

Note: The NPAC SMS will re-send an M-DELETE, to a Local SMS, of the Subscription Version (SV1) that was active prior to the Port-To-Original request (SV2), even though the Failed SP List resides on SV2, as defined in the IIS Message Flows for a Port-To-Original of a Ported Pooled Number

RR5-82.2 Re-Send of Subscription Version Information –Port-To-Original TN within a Pooled 1K Block to non-EDR Local SMS

DELETED

RR5-151 Subscription Version Failed SP List – Exclusion of a Service Provider from Resend

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to request that a Service Provider be excluded from the Subscription Version Failed SP List when resending an Inter-Service Provider port or Intra-Service Provider port Version, and not broadcast to the Service Provider that is excluded (previously NANC 227/254 Req 1)

RR5-152 Subscription Version Failed SP List – Logging of an Excluded Service Provider

NPAC SMS shall log the following information when a Service Provider is excluded from the Failed SP List based on a request by NPAC Personnel via the NPAC Administrative Interface: date, time, excluded SPID, current SPID, TN, SV-ID (previously NANC 227/254 Req 2)

5.1.3 Subscription Queries

This section provides the requirements for the Subscription Version Query functionality, which is executed upon the user requesting a query of a Subscription Version (R5-13)

5.1.3.1 User Functionality

R5-72 Query Subscription Version - Request

NPAC SMS shall allow NPAC personnel,SOA-to-NPAC SMS interface users, and NPAC SMS-to-Local SMS interface users to query data maintained by the NPAC SMS for a Subscription and all its Versions

RR5-215 Query of Subscription Versions for Pseudo-LRN – Service Provider Personnel – SOA Interface

NPAC SMS shall allow a Service Provider SOA via the SOA-to-NPAC SMS Interface, to query Subscription Versions for a pseudo-LRN record, if the value in the requesting Service Provider's SOA Pseudo-LRN Indicator is set to TRUE, and the New Service Provider value in the pseudo-LRN record is contained in the requesting Service Provider's Pseudo-LRN Accepted SPID List (previously NANC 442, Req 37)

RR5-216 Query of Subscription Versions for Pseudo-LRN – Service Provider Personnel – LSMS Interface

NPAC SMS shall allow a Service Provider Local SMS via the NPAC SMS-to-Local SMS Interface, to query Subscription Versions for a pseudo-LRN record, if the value in the requesting Service Provider's LSMS Pseudo-LRN Indicator is set to TRUE, and the New Service Provider value in the pseudo-LRN record is contained in the requesting Service Provider's Pseudo-LRN Accepted SPID List (previously NANC 442, Req 54)

RR5-217 Query of Subscription Versions for Pseudo-LRN – Service Provider Personnel – LTI

NPAC SMS shall allow a Service Provider via the NPAC SOA Low-tech Interface, to query Subscription Versions for a pseudo-LRN record, if the Service Provider Low-Tech Interface Pseudo-LRN Support Flag Indicator is TRUE (previously NANC 442, Req 38)

5.1.3.2 System Functionality

The following requirements specify the NPAC SMS query functionality defined above

R5-73 Query Subscription Version - Version Identification

NPAC SMS shall receive the following data to identify a Subscription Version to be queried:

Ported Telephone Numbers and status (optional)

or

Subscription Version ID

R5-74.1 Query Subscription Version - Status Supplied

NPAC SMS shall only retrieve Subscription Versions with a specific status when the user supplies a specific Subscription Version status as part of the query criteria

R5-74.2 Query Subscription Version - Return All Subscription Versions for Ported TN

NPAC SMS shall return all Subscription Versions associated with a ported TN that the requester is eligible to view if the originating user has not provided a Subscription Version status as part of the query criteria

R5-74.3 Query Subscription Version - Output Data - SOA

NPAC SMS shall return the following output data for a Subscription Version query request initiated by NPAC personnel or aSOA-to-NPAC SMS interface user: (reference NANC 399)

- Subscription Version ID
- Subscription Version Status
- Local Number Portability Type
- Ported Telephone Number
- Old facilities-based Service Provider Due Date

- New facilities-based Service Provider Due Date
- New facilities-based Service Provider ID
- Old facilities-based Service Provider ID
- Authorization from old facilities-based Service Provider
- Status Change Cause Code
- Location Routing Number (LRN)
- Class DPC
- Class SSN
- LIDB DPC
- LIDB SSN
- CNAM DPC
- CNAM SSN
- ISVM DPC
- ISVM SSN
- WSMSC DPC (for SOAs that support WSMSC data)
- WSMSC SSN (for SOAs that support WSMSC data)
- Billing Service Provider ID
- End-User Location Value
- End User Location Type
- Customer Disconnect Date
- Effective Release Date
- Disconnect Complete Time Stamp
- Conflict Time Stamp
- Broadcast Time Stamp
- Activation Time Stamp
- Cancellation Time Stamp (Status Modified to Canceled Time Stamp)
- New Service Provider Creation Time Stamp
- Old Service Provider Authorization Time Stamp
- Pre-cancellation Status
- Old Service Provider Cancellation Time Stamp
- New Service Provider Cancellation Time Stamp
- Old Time Stamp (Status Modified to Old Time Stamp)
- New Service Provider Conflict Resolution Time Stamp
- Old Service Provider Conflict Resolution Time Stamp
- Create Time Stamp
- Modified Time Stamp
- Porting to Original
- Download Reason
- Timer Type (for SOAs that support Timer Type)
- Business Hours Type (for SOAs that support Business Hours)
- List of all Local SMSs that failed activation, modification, or disconnect
- SV Type (if supported by the Service Provider SOA)
- Alternative SPID (if supported by the Service Provider SOA)
- Last Alternative SPID (if supported by the Service Provider SOA)
- Alt-End User Location Value (if supported by the Service Provider SOA)
- Alt-End User Location Type (if supported by the Service Provider SOA)
- Alt-Billing ID (if supported by the Service Provider SOA)
- Voice URI (if supported by the Service Provider SOA)
- MMS URI (if supported by the Service Provider SOA)
- SMS URI (if supported by the Service Provider SOA)
- New SP Medium Timer Indicator (if supported by the Service Provider SOA)

- Old SP Medium Timer Indicator (if supported by the Service Provider SOA)
- Activity Time Stamp (XML only)

Note: If the New SP Medium Timer Indicator value or Old SP Medium Timer Indicator value is not set on the Subscription Version, then it will not be returned in the query response

R5-74.4 Query Subscription Version - Output Data - LSMS

NPAC SMS shall return the following output data for a Subscription Version query request initiated over the NPAC SMS-to-Local SMS interface: (reference NANC 399)

- Subscription Version ID
- Subscription Version Status
- Local Number Portability Type
- Ported Telephone Number
- Old facilities-based Service Provider Due Date
- New facilities-based Service Provider Due Date
- New facilities-based Service Provider ID
- Old facilities-based Service Provider ID
- Authorization from old facilities-based Service Provider
- Status Change Cause Code
- Location Routing Number (LRN)
- New facilities-based Service Provider ID
- Activation Time Stamp
- Customer Disconnect Date
- Class DPC
- Class SSN
- LIDB DPC
- LIDB SSN
- CNAM DPC
- CNAM SSN
- ISVM DPC
- ISVM SSN
- WSMSC DPC (for Local SMSs that support WSMSC data)
- WSMSC SSN (for Local SMSs that support WSMSC data)
- Billing Service Provider ID
- End-User Location Value
- End-User Location Type
- Customer Disconnect Date
- Effective Release Date
- Disconnect Complete Time Stamp
- Conflict Time Stamp
- Broadcast Time Stamp
- Activation Time Stamp
- Cancellation Time Stamp (Status Modified to Canceled Time Stamp)
- New Service Provider Creation Time Stamp
- Old Service Provider Authorization Time Stamp
- Pre-cancellation Status
- Old Service Provider Cancellation Time Stamp
- New Service Provider Cancellation Time Stamp
- Old Time Stamp (Status Modified to Old Time Stamp)
- New Service Provider Conflict Resolution Time Stamp
- Old Service Provider Conflict Resolution Time Stamp

- Create Time Stamp
- Modified Time Stamp
- Porting To Original
- Billing Service Provider ID
- Local Number Portability Type
- Download Reason
- List of all Local SMSs that failed activation, modification, or disconnect
- SV Type (if supported by the Service Provider LSMS)
- Alternative SPID (if supported by the Service Provider LSMS)
- Last Alternative SPID (if supported by the Service Provider LSMS)
- Alt-End User Location Value (if supported by the Service Provider LSMS)
- Alt-End User Location Type (if supported by the Service Provider LSMS)
- Alt-Billing ID (if supported by the Service Provider LSMS)
- Voice URI (if supported by the Service Provider LSMS)
- MMS URI (if supported by the Service Provider LSMS)
- SMS URI (if supported by the Service Provider LSMS)
- New SP Medium Timer Indicator (if supported by the Service Provider LSMS)
- Old SP Medium Timer Indicator (if supported by the Service Provider LSMS)
- Activity Time Stamp (XML only)

RR5-153 Subscription Version Query – Sort Order

NPAC SMS shall return Subscription Versions as a result of a Subscription Version query, sorted in TN (primary, ascending) and SV-ID (secondary, ascending) order (previously NANC 285, Req 3)

R5-75 Query Subscription Version -No Data Found

NPAC SMS shall send the originating user an appropriate message indicating that there was no data found if no Subscription Versions were found for a query

RN5-4 Query Subscription Version - Retrieve Data, Modification Not Allowed

NPAC SMS shall allow NPAC personnel or SOA-to-NPAC SMS interface users to retrieve subscription data that they cannot modify

RN5-5 Query Subscription Version - Retrieve Data Based on Single Ported TN Only

NPAC SMS shall allow authorized NPAC personnel,SOA-to-NPAC SMS interface users, or NPAC SMS-to-Local SMS interface users to submit query requests for Subscription Version data based on a single ported TN only

RN5-6 Query Subscription Version - View for Any Ported TN

NPAC SMS shall allow old and new Service Providers or NPAC personnel to view a Subscription Version for any ported TN

RR5-39.1 Query Subscription Version - View Old, Partial Failure, Disconnect Pending, Canceled or Active, and Conditionally Sending and Failed for Mechanized SOA Users

NPAC SMS shall allow NPAC Customers, via the SOA-to-NPAC SMS interface, who are neither the old nor the new Service Provider to view only those Subscription Versions for a ported TN with a status of active, partial-failure, disconnect-pending, canceled or old, plus sending and failed when the SOA Sending Failed SV Query Indicator is TRUE

RR5-39.2 Query Subscription Version - View Old, Partial Failure, Disconnect Pending, Canceled or Active, and Conditionally Sending and Failed for Mechanized LSMS Users

NPAC SMS shall allow NPAC Customers, via the NPAC SMS-to-Local SMS interface, who are neither the old nor the new Service Provider to view only those Subscription Versions for a ported TN with a status of active, partial-failure, disconnect-pending, canceled or old, plus sending and failed when the LSMS Sending Failed SV Query Indicator is TRUE

RR5-174 Query Subscription Version – View Old, Partial Failure, Disconnect Pending, Canceled, Active, Sending or Failed for Low-Tech Interface Users

NPAC SMS shall return all Subscription Versions with a of Subscription Version status of active, partial failure, disconnect-pending, canceled, old, sending, or failed for queries initiated via the NPAC SOA Low-tech Interface (previously R4-30 2)

RR5-175 Service Provider subscription query

NPAC SMS shall return all active Subscription Versions associated with the Service Provider which satisfy the selection criteria, up to a tunable parameter number of Subscription Versions for queries initiated via the NPAC SMS-to-Local SMS interface (previously R4-30 1)

RR5-40 Query Subscription Version - Online Records Only

NPAC SMS shall only allow Subscription Version queries of online subscription Versions that have not been archived

RR5-83 Query Subscription Version – LNP Type of POOL

NPAC SMS shall return Subscription Versions with LNP Type of POOL that match the query selection criteria, on query requests by NPAC personnel, SOA via the SOA-to-NPAC SMS Interface, Local SMS via the NPAC SMS-to-Local SMS Interface, or Service Provider via the NPAC SOA Low-tech Interface (Previously SV-440)

RR5-154 Subscription Version Query – Maximum Subscription Version Query by the SOA

NPAC SMS shall return the Maximum Subscription Query tunable value of Subscription Versions to a SOA, via the SOA-to-NPAC SMS Interface, when the user requests a Subscription Version query and the number of Subscription Version records that meet the query criteria exceed the Maximum Subscription Query tunable value and the service provider's SOA SV Query Indicator is set to True (previously NANC 285, Req 1)

RR5-155 Subscription Version Query – Maximum Subscription Version Query by the LSMS

NPAC SMS shall return the Maximum Subscription Query tunable value of Subscription Versions to a Local SMS, via the NPAC SMS-to-Local SMS Interface, when the user requests a Subscription Version query and the number of Subscription Version records that meet the query criteria exceed the Maximum Subscription Query tunable value and the service provider's LSMS SV Query Indicator is set to True (previously NANC 285, Req 2)

RR5-176 Count of subscription information during a query

DELETED

RR5-177 Service Provider subscription query options

NPAC SMS shall receive the attributes to be searched on for queries regarding Subscription Versions associated with the Service Provider Allowable attributes are the following data elements from

New SP Medium Timer Indicator	B	√	A Boolean that indicates whether the NPAC Customer views this SV as a simple port using Medium Timers when they are the New SP This field is only required if the service provider supports Medium Timers
Old SP Medium Timer Indicator	B	√	A Boolean that indicates whether the NPAC Customer views this SV as a simple port using Medium Timers when they are the Old SP This field is only required if the service provider supports Medium Timers
New Service Provider Origination Timestamp	T		A timestamp when a request or reply (from the New Service Provider) is created (as distinguished from delivery) Each request or reply sent over the XML interface must have an Origination Timestamp regardless of the system that originates the message This timestamp should contain milliseconds accuracy
Old Service Provider Origination Timestamp	T		A timestamp when a request or reply (from the Old Service Provider) is created (as distinguished from delivery) Each request or reply sent over the XML interface must have an Origination Timestamp regardless of the system that originates the message This timestamp should contain milliseconds accuracy
Activity Timestamp	T		A timestamp the NPAC maintains on each object in the database to retain the "Origination Timestamp" for the last update made to a record The local system should also maintain this timestamp to capture the "Origination Timestamp" for the last update made for data received from the NPAC This timestamp should contain milliseconds accuracy
Suppress Initiator SPID	B		A Boolean that indicates whether the Initiator SPID wishes to suppress notifications to itself
Suppress Grantor SPID	B		A Boolean that indicates whether the Initiator SPID (as a Delegate) wishes to suppress notifications to its Grantor
Suppress Delegate SPID	B		A Boolean that indicates whether the Initiator SPID (as a Grantor or another Delegate) wishes to suppress notifications to related Delegate(s)
Suppress Other SPID	B		A Boolean that indicates whether the Initiator SPID wishes to suppress notifications to the Other SPID
Suppress Other SPID Delegates	B		A Boolean that indicates whether the Initiator SPID wishes to suppress notifications to the Other SPID's Delegate(s)

Table 3-7 Subscription Version Data Model~~Table 3-6 Subscription Version Data Model~~: (previously R4-29)

- Subscription Version ID
- Subscription Version Status
- Local Number Portability Type
- Ported Telephone Number
- Old facilities-based Service Provider Due Date
- New facilities-based Service Provider Due Date
- New facilities-based Service Provider ID
- Authorization from old facilities-based Service Provider
- Local Routing Number (LRN)
- Class DPC
- Class SSN
- LIDB DPC
- LIDB SSN
- CNAM DPC
- CNAM SSN
- ISVM DPC
- ISVM SSN
- WSMSC DPC
- WSMSC SSN
- Billing Service Provider ID
- End User Location Value
- End User Location Type
- Customer Disconnect Date
- Effective Release Date
- Disconnect Complete Time Stamp
- Conflict Time Stamp
- Activation Time Stamp
- Cancellation Time Stamp (Status Modified to Cancel Time Stamp)
- New Service Provider Creation Time Stamp
- Old Service Provider Authorization Time Stamp
- Pre-cancellation Status
- Old Service Provider Cancellation Time Stamp
- New Service Provider Cancellation Time Stamp
- Old Time Stamp (Status Modified to Old Time Stamp)
- New Service Provider Conflict Resolution Time Stamp
- Create Time Stamp
- Modify Time Stamp
- Porting To Original
- Status Change Cause Code
- Timer Type
- Business Hour Type
- SV Type

RR5-178 Error Message for Service Provider subscription query

NPAC SMS shall provide the request originator with a message indicating that there was no data in NPAC SMS that matched the search keys, if NPAC SMS does not have Subscription Versions as specified by the request originator (previously R4-30 8)

RR5-156 Service Provider SOA SV Query Indicator

NPAC SMS shall provide a Service Provider SOA SV Query Indicator tunable parameter which defines whether a SOA supports enhanced SV Query functionality over the SOA-to-NPAC SMS Interface (previously NANC 285, Req 7)

Note: For Service Providers that do NOT support enhanced SOA SV Query functionality, the NPAC will send a complexityLimitation error message (in CMIP) or results_too_large error message (in XML), when the number of SVs in a response exceed the Maximum Subscription Query tunable value

RR5-157 Service Provider SOA SV Query Indicator Default

NPAC SMS shall default the Service Provider SOA SV Query Indicator tunable parameter to FALSE (previously NANC 285, Req 8)

RR5-158 Service Provider SOA SV Query Indicator Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Service Provider SOA SV Query Indicator tunable parameter (previously NANC 285, Req 9)

RR5-159 Service Provider LSMS SV Query Indicator

NPAC SMS shall provide a Service Provider LSMS SV Query Indicator tunable parameter which defines whether a LSMS supports enhanced SV Query functionality over the NPAC SMS-to-Local SMS Interface (NANC 285, Req 10)

Note: For Service Providers that do NOT support enhanced LSMS SV Query functionality, the NPAC will send a complexityLimitation error message (in CMIP) or results_too_large error message (in XML), when the number of SVs in a response exceed the Maximum Subscription Query tunable value

RR5-160 Service Provider LSMS SV Query Indicator Default

NPAC SMS shall default the Service Provider LSMS SV Query Indicator tunable parameter to FALSE (NANC 285, Req 11)

RR5-161 Service Provider LSMS SV Query Indicator Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Service Provider LSMS SV Query Indicator tunable parameter (NANC 285, Req 12)

RR5-222 Service Provider SOA Sending Failed SV Query Indicator

NPAC SMS shall provide a Service Provider SOA Sending Failed SV Query Indicator tunable parameter which defines whether a SOA supports receiving Sending and Failed SVs in an SV Query Reply over the SOA-to-NPAC SMS Interface

RR5-223 Service Provider SOA Sending Failed SV Query Indicator Default

NPAC SMS shall default the Service Provider SOA Sending Failed SV Query Indicator tunable parameter to FALSE

RR5-224 Service Provider SOA Sending Failed SV Query Indicator Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Service Provider SOA Sending Failed SV Query Indicator tunable parameter

RR5-225 Service Provider LSMS Sending Failed SV Query Indicator

NPAC SMS shall provide a Service Provider LSMS Sending Failed SV Query Indicator tunable parameter which defines whether an LSMS supports receiving Sending and Failed SVs in an SV Query Reply over the NPAC SMS-to-Local SMS Interface

RR5-226 Service Provider LSMS Sending Failed SV Query Indicator Default

NPAC SMS shall default the Service Provider LSMS Sending Failed SV Query Indicator tunable parameter to FALSE

RR5-227 Service Provider LSMS Sending Failed SV Query Indicator Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Service Provider LSMS Sending Failed SV Query Indicator tunable parameter

5.1.4 Subscription Version Processing for National Number Pooling

This section details the functional requirements for user interaction (either NPAC Personnel or Service Provider Personnel via their SOA and/or LSMS-to-NPAC SMS interface) with the NPAC SMS to appropriately operate in the National Number Pooling Environment

5.1.4.1 Subscription Version, General

The following requirements outline the basic NPAC SMS processing requirements for subscription versions in a National Number Pooling environment

RR5-84 Number Pooling Subscription Version Information – Reject Messages

NPAC SMS shall reject a message from NPAC personnel, a Service Provider SOA via the SOA-to-NPAC SMS Interface, a Service Provider LSMS via the NPAC SMS-to-Local SMS Interface, or a Service Provider via the NPAC SOA Low-tech Interface, to Create, Modify, Cancel, Set to Conflict, Activate, or Disconnect, a Subscription Version with an LNP Type of POOL (Previously SV-1)

RR5-85 Number Pooling Subscription Version Information – Suppression of Notifications

NPAC SMS shall suppress status change and attribute value change notifications to the old and new/current service provider SOA systems for Subscription Versions with LNP Type of POOL (Previously SV-2)

Note: This includes creation, modification, deletion, re-send, resync, audits, and mass update

RR5-85.5 Number Pooling Subscription Version Information – Disconnect Notifications to Donor Service Provider

NPAC SMS shall send donor disconnect notifications to the Donor Service Provider (Code Holder) when a Number Pool Block De-pool occurs

RR5-86 Number Pooling Subscription Version Information – Filters for "Pooled Number" Subscription Versions

DELETED

RR5-87 Number Pooling Subscription Version Information – Broadcast of Subscription Data

DELETED

RR5-88 Number Pooling Subscription Version Information – Failed SP List Update for Block

NPAC SMS shall consider a Local SMS to be discrepant and shall update the Subscription Version Failed SP List for all Subscription Versions with LNP Type of POOL in the 1K Block, based on a Local SMS failing to process the Block Object, for an addition, modification, deletion, re-send, or mass update (Previously SV-5)

RR5-89 Number Pooling Subscription Version Information – Data Integrity for Pooled Subscription Versions and Block

NPAC SMS shall maintain data integrity for SPID, LRN and DPC/SSN data, between Subscription Versions with LNP Type of POOL in a 1K Block, and the corresponding Number Pooling Block, in the NPAC SMS (Previously SV-6)

5.1.4.2 Subscription Version, Addition for Number Pooling

The following section outlines the NPAC SMS functional requirements for processing pooled subscription version additions Subscription versions with LNP Type set to POOL are created when a Number Pool Block is activated

RR5-90 Addition of Number Pooling Subscription Version Information – Subscription Data

NPAC SMS shall create individual subscription versions, with LNP Type of POOL, for each TN within the 1K Block, that does not already exist with a status of pending/conflict/cancel-pending/active/partial failure/disconnect pending/old with a Failed SP List/sending, immediately after successfully creating Number Pooling Block Holder Information in the NPAC SMS (Previously SV-10)

RR5-91 Addition of Number Pooling Subscription Version Information – Create "Pooled Number" Subscription Version

NPAC SMS shall automatically populate the following data upon Subscription Version creation for a Pooled Number port: (Previously SV-20, reference NANC 399)

Version ID - Automatically generated by NPAC SMS
LRN - Value set to same field in Block
Old Service Provider ID - Value set to owner of NPA-NXX
New Service Provider ID - Value set to NPA-NXX-X Holder SPID field in Block
TN - Telephone Number associated with this Subscription Version
LNP Type - Value set to "POOL"
Status - Value initially set to "Sending"
CLASS DPC - Value set to same field in Block
CLASS SSN - Value set to same field in Block
LIDB DPC - Value set to same field in Block
LIDB SSN - Value set to same field in Block
CNAM DPC - Value set to same field in Block
CNAM SSN - Value set to same field in Block
ISVM DPC - Value set to same field in Block
ISVM SSN - Value set to same field in Block
WSMSC DPC - Value set to same field in Block
WSMSC SSN - Value set to same field in Block
New Service Provider Due Date - Value set to current date
Old Service Provider Due Date - Value set to current date
Old Service Provider Authorization - Value set to "TRUE"
New Service Provider Create Time Stamp - Value set to current date/time

Old Service Provider Authorization Time Stamp - Value set to current date/time
Activation Request Time Stamp - Value set to current date/time
Activation Broadcast Date - Value set to current date
Activation Broadcast Complete Time Stamp - Value set to current date/time, once the broadcast is complete (Local SMS has responded)
Disconnect Request Time Stamp - Value set to all zeros
Disconnect Broadcast Time Stamp - Value set to all zeros
Disconnect Broadcast Time Stamp - Value set to all zeros
Disconnect Complete Time Stamp - Value set to all zeros
Effective Release Date - Value set to all zeros
Customer Disconnect Date - Value set to all zeros
Pre-Cancellation Status - Value set to NULL
Old Service Provider Cancellation Time Stamp - Value set to all zeros
New Service Provider Cancellation Time Stamp - Value set to all zeros
Cancellation Time Stamp - Value set to all zeros
Old Time Stamp - Value set to all zeros
Conflict Time Stamp - Value set to all zeros
Conflict Resolution Time Stamp - Value set to all zeros
Create Time Stamp - Value set to current date/time
Modified Time Stamp - Value set to current date/time
Porting to Original - Value set to "FALSE"
End User Location Value - Value set to "no value"
End User Location Value Type - Value set to "no value"
Modify Request Time Stamp - Value set to all zeros
Modify Broadcast Time Stamp - Value set to all zeros
Modify Broadcast Complete Time Stamp - Value set to all zeros
Billing ID - Value set to "no value"
Status Change Cause Code - Value set to "no value"
SV Type (Value set to same field as Block)
Alternative SPID (Value set to same field as Block)
Last Alternative SPID (Value set to same field as Block)
Alt-End User Location Value (Value set to same field as Block)
Alt-End User Location Type (Value set to same field as Block)
Alt-End Billing ID (Value set to same field as Block)
Voice URI (Value set to same field as Block)
MMS URI (Value set to same field as Block)
SMS URI (Value set to same field as Block)
Activity Time Stamp (Value set to same field as Block)

RR5-92 Addition of Number Pooling Subscription Version Information Create "Pooled Number" Subscription Version – Bypass of Existing Subscription Versions

NPAC SMS shall upon finding an existing subscription version with a pending/conflict/cancel-pending/active /partial failure/disconnect pending/old with a failed SP list/sending status for any TNs within the 1K Block, will bypass and not alter that TN/subscription version, log an information message, and continue processing (Previously SV-30)

RR5-93 Addition of Number Pooling Subscription Version Information Create "Pooled Number" Subscription Version - Set to Sending

NPAC SMS shall set a Subscription Version of LNP Type POOL in the 1K Block, to sending upon successful subscription creation (Previously SV-70)

RR5-94 Addition of Number Pooling Subscription Version Information – Status Update

NPAC SMS shall update the ***status*** of each Subscription Version with LNP Type of POOL for each TN in the 1K Block, upon completion of the broadcast, and a response from ALL Local SMSs, or retries are exhausted/timers have expired, as defined in RR3-137 1 and RR3-137 2 (Previously SV-90)

RR5-95 Addition of Number Pooling Subscription Version Information – Failed SP List

NPAC SMS shall update the ***Subscription Version Failed SP List*** with the discrepant Local SMS of the individual subscription version(s) with LNP Type of POOL, upon completion of the activation broadcast to All Local SMSs, an unsuccessful response from at least one Local SMS, and a response from ALL Local SMSs, or retries are exhausted/timers have expired, as defined in RR3-138 1 and RR3-138 2 (Previously SV-121)

RR5-220 Addition of Number Pooling Subscription Version Information – Create "Pooled Number" Subscription Version – Status Rollup to Active with empty Failed SP List

NPAC SMS shall, upon finding any TNs with no active-like or sending Subscription Version (pooled or ported) in the 1K Block, while performing the Block status rollup to Active with an empty Failed SP List for the first time, create a Subscription Version with LNP Type of POOL in the NPAC SMS using the routing data in the Block, and set the status to active for the Subscription Version (previously NANC 446, Req new3)

Note: Block status rollup that contains a Failed SP List will not perform this operation

5.1.4.3 Subscription Version, Block Create Validation of Subscription Versions

The following requirements define validation processing on behalf of the NPAC SMS once a Number Pool Block has been activated

RR5-96 Block Create Validation of Subscription Versions – Subscription Version Completion Check

NPAC SMS shall, upon successful completion of a Block Create request, where the Block status is active, verify that 1000 individual TNs exist for the Block, with an LNP Type of either: (Previously SV-131)

- POOL, where the status is active, or
- LSPP/LISP, where the status is active/partial failure/disconnect pending

Note: NPAC shall perform this Block Create Validation Process until all 1000 TNs have been accounted for in the 1K Block

Note: NPAC shall NOT perform this Block Create Validation Process once all 1000 TNs have been accounted for in the 1K Block

RR5-97 Block Create Validation of Subscription Versions – First Time Execution of Subscription Version Completion Check

NPAC SMS shall run the Block Create Validation Process within 24 hours of Block Creation where the Block status is active (Previously SV-132)

RR5-98 Block Create Validation of Subscription Versions – Subscription Version Create for Missing TNs

NPAC SMS shall, upon finding any missing TNs with a status of Old without a Failed SP List, in the 1K Block, upon performing the Subscription Version Completion Check defined in RR5-96, log an information message, create a Subscription Version with LNP Type of POOL in the NPAC SMS using the routing data in the Block, and set the status to sending for the Subscription Version (Previously SV-133)

RR5-99 Block Create Validation of Subscription Versions – Subscription Version Broadcast to non-EDR Local SMS

DELETED

RR5-100 Block Create Validation of Subscription Versions – Block Status Update

DELETED

RR5-101 Block Create Validation of Subscription Versions – Block Failed SP List Update

DELETED

RR5-102 Block Create Validation of Subscription Versions – Subscription Version Logging

NPAC SMS shall upon finding any missing TNs within the 1K Block during the Block Create Validation Process, log an information message, and continue processing (Previously SV-140)

5.1.4.4 Subscription Version, Modification for Number Pooling

RR5-103 Modification of Number Pooling Subscription Version Information – Subscription Data

NPAC SMS shall automatically apply the updates to the attributes of the individual subscription versions with LNP Type of POOL, with a status of active, for each TN within the 1K Block after successfully modifying a Number Pooling Block in the NPAC SMS (Previously SV-230)

RR5-104 Modification of Number Pooling Subscription Version Information – Status Update to Sending

NPAC SMS shall update the status of the individual subscription versions with LNP Type of POOL, with a status of active, for each TN within the 1K Block, upon the start of the broadcast of a Block Modification to the Local SMSs, from an active status to a sending status, after successfully modifying a Number Pooling Block in the NPAC SMS (Previously SV-240)

RR5-105 Modification of Number Pooling Subscription Version Information – Status Update

NPAC SMS shall update the ***status*** of each Subscription Version with LNP Type of POOL, with a status of active, for each TN in the 1K Block, upon completion of the broadcast, and a response from All Local SMSs, or retries are exhausted, as defined in RR3-137 1 and RR3-137 3 (Previously SV-270)

RR5-106 Modification of Number Pooling Subscription Version Information – Failed SP List

NPAC SMS shall update the ***Subscription Version Failed SP List*** with the discrepant Local SMS of the individual subscription version(s) with LNP Type of POOL, with a status of active, upon completion of the modification broadcast to All Local SMSs, an unsuccessful response from at least one Local SMS, and a response from ALL Local SMSs, or retries are exhausted, as defined in RR3-138 1 and RR3-138 2 (Previously SV-280)

5.1.4.5 Subscription Version, Deletion for Number Pooling

RR5-107 Deletion of Number Pooling Subscription Version Information – Sending Status Update to Subscription Versions

NPAC SMS shall, upon processing a valid request to delete an NPA-NXX-X, update the status of the Subscription Versions with LNP Type of POOL in the 1K Block, at the start of the broadcast to all Local SMSs, from an active status to a sending status (Previously SV-330)

RR5-108 Deletion of Number Pooling Subscription Version Information – Broadcast of Subscription Version Data

DELETED

RR5-109 Deletion of Number Pooling Subscription Version Information – Status Update to Subscription Versions

NPAC SMS shall update the ***status*** of a particular Subscription Version with LNP Type of POOL for each TN in the 1K Block, upon completion of the broadcast, a response for the Block to all Local SMSs, or retries are exhausted, as defined in RR3-137 1 and RR3-137 4 (Previously SV-350)

RR5-110 Deletion of Number Pooling Subscription Version Information – Failed SP List

NPAC SMS shall update the ***Subscription Version Failed SP List*** with the discrepant Local SMS of the individual subscription version(s) with LNP Type of POOL, upon completion of the deletion broadcast to All Local SMSs, an unsuccessful response from at least one Local SMS, and a response from ALL Local SMSs, or retries are exhausted, as defined in RR3-138 1 and RR3-138 2 (Previously SV-365)

5.1.4.6 Subscription Version, Block Delete Validation of Subscription Versions

RR5-111 Block Delete Validation of Subscription Versions – Ensure no Subscription Versions with LNP Type POOL

NPAC SMS shall ensure that upon completion of an NPA-NXX-X delete (de-pool), there are no Subscription Versions of LNP Type POOL, remaining in the 1K Block (Previously SV-429)

6. *NPAC SMS Interfaces*

Two CMIP-based, mechanized interfaces to the NPAC SMS were defined in the Illinois NPAC RSMS RFP One interface supports the Service Provider's Service Order Administration (SOA) systems This interface is referred to as the SOA-to-NPAC SMS interface The second interface supports the Service Provider's Local Service Management System (LSMS) This interface is referred to as the NPAC SMS-to-LSMS interface Both of the interfaces support two-way communications In addition to the CMIP interface, an XML interface (allowing connection to both SOA and LSMS) was defined under NANC Change Order 372

6.1 SOA to NPAC SMS Interface

6.2 NPAC SMS-to-Local SMS Interface

6.3 Interface Transactions

The CMIP protocol provides for six types of transactions over the interface (Reference: ISO 9595 and 9596) They are:

- Create
- Delete
- Set
- Get
- M-Action
- Event Report

R6-22 Manager-agent relationship of CMIP interface transactions

NPAC SMS CMIP Interface shall be designed in terms of CMIP transactions in a manager-agent relationship

The XML protocol uses an HTTPS POST operation for origination of all messages and an HTTPS response for the synchronous acknowledgement over the XML interface

RR6-211 Client-Server relationship of XML interface transactions

NPAC SMS XML Interface shall be designed in terms of XML interface transactions in a client-server relationship (Previously NANC 372, Req 6)

6.4 Interface and Protocol Requirements

While it is expected that dedicated links will be used for the interfaces, switched connections should also be supported Reliability and availability of the links will be essential and high capacity performance will be needed

R6-23 Open interfaces

The SOA-to-NPAC SMS Interface and the NPAC SMS-to-Local SMS Interface shall be open, non-proprietary interfaces and will not become the property of any entity

Note: This requirement applies to both the CMIP interface and the XML interface

6.4.1 Protocol Requirements

R6-24 CMIP Interface protocol stack

Both of the NPAC SMS CMIP interfaces, as defined above, shall be implemented via the following protocol stack:

INTERFACE PROTOCOL STACK	
Application	CMISE, ACSE, ROSE
Presentation	ANSI T1 224
Session:	ANSI T1 224
Transport:	TCP, RFC1006
Network:	IP
Link	PPP, MAC, Frame Relay, ATM (IEEE 802 3), Ethernet
Physical	DS1, DS-0 x n , V 34, Ethernet

Table 6-1 CMIP Interface Protocol Stack

R6-25 Multiple application associations

NPAC SMS shall support multiple application associations per Service Provider

RR6-212 XML Interface protocol

NPAC SMS shall use HTTPS 1 1 as the supported protocol to define XML interfaces, for the SOA-to-NPAC SMS interface and the Local SMS-to-NPAC SMS interface, using state-less and session-less connections (Previously NANC 372, Req 7)

Note: HTTPS 1 0 message will NOT be supported

6.4.2 Interface Performance Requirements

R6-26 Interface availability

Both the SOA-to-NPAC SMS interface and the NPAC SMS-to-Local SMS interface shall be available on a 24 by 7 basis, consistent with other availability requirements in this specification

R6-27 Interface reliability

A 99 9 % reliability rate shall be maintained for both the SOA-to-NPAC SMS interface and NPAC SMS-to-Local SMS interface

AR6-1 Range Activations

DELETED

AR6-2 Percent of Range Activations

DELETED

R6-28.1 SOA to NPAC SMS interface transaction rates - sustained

A transaction rate of 7 0 CMIP/XML transactions (sustained) per second shall be supported by eachSOA-to-NPAC SMS interface association

R6-28.2 SOA to NPAC SMS interface transaction rates - peak

NPAC SMS shall support a rate of 10 0 CMIP/XML transactions per second (peak for a five minute period, within any 60 minute window) over a singleSOA-to-NPAC SMS interface association

R6-29.1 NPAC SMS-to-Local SMS interface transaction rates

DELETED

R6-29.2 NPAC SMS-to-Local SMS interface transaction rates - peak

DELETED

RR6-107 SOA to NPAC SMS interface transaction rates – total bandwidth

NPAC SMS shall support a total bandwidth of 70 0 SOA CMIP/XML transactions per second (sustained) for a single NPAC SMS region (previously NANC 393, NewReq 1)

RR6-108 NPAC SMS-to-Local SMS interface transaction rates – sustained

NPAC SMS shall support a rate of 7 0 CMIP/XML transactions per second (sustained) over each NPAC SMS-to-Local SMS interface association (previously NANC 393, NewReq 2)

RR6-109 NPAC SMS-to-Local SMS interface transaction rates – total bandwidth

NPAC SMS shall support a total bandwidth of 210 Local SMS CMIP/XML transactions per second (sustained) for a single NPAC SMS region (previously NANC 393, NewReq 3)

6.4.3 Interface Specification Requirements

R6-30.1 CMIP Interface specification

The interoperable interface model defining both the NPAC-to-Local SMS and the SOA-to-NPAC SMS shall be specified in terms of ISO 10165-4, "Guideline for the Definition of Managed Objects (GDMO)"

Note: This requirement is specific to the CMIP interface

R6-30.2 CMIP Interface specification identification

The interface specification shall be referred to as the "NPAC SMS Interoperable Interface Specification" (NPAC SMS IIS)

RR6-213 XML Interface specification identification

The interface specification shall be referred to as the "NPAC SMS XML Interface Specification" (NPAC SMS XIS) (Previously NANC 372, Req 8)

R6-35 NPAC SMS Interoperable Interface Specification and XML Interface Specification extensibility

The interfaces specified shall be capable of extension to account for evolution of the interface requirements

RR6-1 Acknowledgment of a Cancel Pending for a Subscription Version

NPAC SMS shall acknowledge receiving a cancel pending request for a Subscription Version via the SOA-to-NPAC SMS Interface

RR6-2 Acknowledgment of a Conflict Resolution for a Subscription Version

NPAC SMS shall acknowledge receiving a conflict resolution request for a Subscription Version via the SOA-to-NPAC SMS Interface

RR6-3 Deferred Disconnect of a Subscription Version

NPAC SMS shall allow a specific Subscription Version to be placed into a deferred disconnect status by having the effective date in the future via the SOA-to-NPAC SMS Interface

RR6-4 Cancel Request Notification

NPAC SMS shall notify a Service Provider of a request for a Subscription Version status to be changed to cancel via the SOA-to-NPAC SMS Interface

RR6-5 Conflict Resolution Request Notification

NPAC SMS shall notify a Service Provider of a request for a Subscription Version status to be changed to conflict resolution via the SOA-to-NPAC SMS Interface

6.4.4 Request Restraints

RR6-8 Tunable Parameter Number of Aggregated Download Records

NPAC SMS shall allow NPAC System Administrators to specify a tunable parameter value for the maximum number of download records

RR6-9 Download Time Tunable Parameter to Restricted Time Range

NPAC SMS shall allow NPAC System Administrators to specify a tunable parameter value for the maximum time range for a download

RR6-13 Queries Constrained by NPA-NXX

NPAC SMS shall constrain all queries on the NPAC SMS-to-Local SMS Interface to one NPA-NXX plus additional filter criteria

RR6-14 Subscription Version Resynchronization Filter Usage

NPAC SMS shall, for a Subscription Version Resynchronization request, over the NPAC SMS-to-Local SMS Interface, only send subscription version that are not filtered on the Local SMS

6.4.5 Application Level Errors

Detailed error message functionality has been in the NPAC since the beginning, and was used for NPAC and GUI detailed error messaging In NPAC Release 3 3, change order Illinois 130 was added that provided optional functionality for detailed error message codes (referred to as "Application Level Errors") to be transmitted across the CMIP Interface to both SOA and LSMS With the introduction of the XML Interface, most detailed error codes are used for both the CMIP Interface and the XML Interface (e g , 7019, A subscription version must be in a pending state to be activated) Some detailed error codes are used only for the CMIP Interface (e g , 7088, Active subscription versions cannot be modified via CMIP set), and some detailed error codes are used only for the XML Interface It is not necessary for a SOA or LSMS to support Illinois 130 functionality in order to receive detailed error codes over the XML Interface as separate Service Provider tunables are used for the CMIP Interface versus the XML Interface The detailed error message codes in the XML Interface are referred to as "Extended Errors"

Note: For Service Providers that support the XML interface, detailed error codes are recommended to be supported over that interface (but not required)

RR6-110 NPAC SMS CMIP Application Level Errors

NPAC SMS shall provide application level errors in the CMIP messaging in the SOA-to-NPAC SMS Interface and NPAC SMS-to-Local SMS Interface for those Service Providers that support this functionality (previously ILL 130, Req 1)

RR6-111 NPAC SMS Application Level Error Details

NPAC SMS shall use the CMIP application level errors and XML extended errors defined in the IIS, Appendix A, Errors (previously ILL 130, Req 2)

RR6-112 NPAC SMS Application Level Error Details in soft format

NPAC SMS shall provide CMIP application level error and XML extended errors code-to-text details in a pipe-delimited, soft format, at the Secure FTP sub-directory for each Service Provider (previously ILL 130, Req 3)

Note: This code-to-text mapping is designed to allow a SOA/LSMS to decode an error code received from the NPAC, into its corresponding text description

RR6-113 SOA Action Application Level Errors Indicator

NPAC SMS shall provide SOA Action Application Level Errors Indicator tunable parameter, which defines whether a Service Provider supports Application Level Errors across the SOA Interface for M-ACTIONs (previously ILL 130, Req 4)

Note: For Service Providers that do NOT support Application Level Errors, the NPAC will continue to send the existing CMIP error messages

RR6-114 SOA Action Application Level Error Indicator Default

NPAC SMS shall default the Service Provider SOA Action Application Level Errors Indicator tunable parameter to FALSE (previously ILL 130, Req 5)

RR6-115 SOA Action Application Level Errors Indicator Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Service Provider SOA Action Application Level Errors Indicator tunable parameter (previously ILL 130, Req 6)

RR6-116 LSMS Action Application Level Errors Indicator

NPAC SMS shall provide an LSMS Action Application Level Errors Indicator tunable parameter which defines whether a Service Provider LSMS supports Application Level Errors across the LSMS Interface for M-ACTIONs (previously ILL 130, Req 7)

Note: For Service Providers that do NOT support Application Level Errors, the NPAC will continue to send the existing CMIP error messages

RR6-117 LSMS Action Application Level Errors Indicator Default

NPAC SMS shall default the Service Provider LSMS Action Application Level Errors Indicator tunable parameter to FALSE (previously ILL 130, Req 8)

RR6-118 LSMS Action Application Level Errors Indicator Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Service Provider LSMS Action Application Level Errors Indicator tunable parameter (previously ILL 130, Req 9)

RR6-119 LSMS Application Level Errors Indicator

DELETED

RR6-120 LSMS Application Level Error Indicator Default

DELETED

RR6-121 LSMS Application Level Errors Indicator Modification

DELETED

RR6-193 SOA Non-Action Application Level Errors Indicator

NPAC SMS shall provide a SOA Non-Action Application Level Errors Indicator tunable parameter, which defines whether a Service Provider supports Application Level Errors across the SOA Interface for all non-M-ACTIONs (previously ILL 130, Req 10)

Note: For Service Providers that do NOT support Application Level Errors, the NPAC will continue to send the existing CMIP error messages

RR6-194 SOA Non-Action Application Level Errors Indicator Default

NPAC SMS shall default the Service Provider SOA Non-Action Application Level Errors Indicator tunable parameter to FALSE (previously ILL 130, Req 11)

RR6-195 SOA Non-Action Application Level Errors Indicator Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Service Provider SOA Non-Action Application Level Errors Indicator tunable parameter (previously ILL 130, Req 12)

RR6-196 LSMS Non-Action Application Level Errors Indicator

NPAC SMS shall provide an LSMS Non-Action Application Level Errors Indicator tunable parameter, which defines whether a Service Provider supports Application Level Errors across the LSMS Interface for all non-M-ACTIONs (previously ILL 130, Req 13)

Note: For Service Providers that do NOT support Application Level Errors, the NPAC will continue to send the existing CMIP error messages

RR6-197 LSMS Non-Action Application Level Errors Indicator Default

NPAC SMS shall default the Service Provider LSMS Non-Action Application Level Errors Indicator tunable parameter to FALSE (previously ILL 130 , Req 14)

RR6-198 LSMS Non-Action Application Level Errors Indicator Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Service Provider LSMS Non-Action Application Level Errors Indicator tunable parameter (previously ILL 130, Req 15)

RR6-214 NPAC SMS XML Extended Errors

NPAC SMS shall provide extended errors in the XML messaging in the SOA-to-NPAC SMS Interface and NPAC SMS-to-Local SMS Interface for those Service Providers that support this functionality (Previously NANC 372, Req 9)

RR6-215 SOA XML Extended Errors Indicator

NPAC SMS shall provide SOA XML Extended Errors Indicator tunable parameter, which defines whether a Service Provider supports Extended Error Codes across the SOA Interface for XML messages (Previously NANC 372, Req 10)

RR6-216 SOA XML Extended Errors Indicator Default

NPAC SMS shall default the Service Provider SOA XML Extended Errors Indicator tunable parameter to FALSE (Previously NANC 372, Req 11)

RR6-217 SOA XML Extended Errors Indicator Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Service Provider SOA XML Extended Errors Indicator tunable parameter (Previously NANC 372, Req 12)

RR6-218 LSMS XML Extended Errors Indicator

NPAC SMS shall provide an LSMS XML Extended Errors Indicator tunable parameter which defines whether a Service Provider LSMS supports Extended Error Codes across the LSMS Interface for XML messages (Previously NANC 372, Req 13)

RR6-219 LSMS XML Extended Errors Indicator Default

NPAC SMS shall default the Service Provider LSMS XML Extended Errors Indicator tunable parameter to FALSE (Previously NANC 372, Req 14)

RR6-220 LSMS XML Extended Errors Indicator Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Service Provider LSMS XML Extended Errors Indicator tunable parameter (Previously NANC 372, Req 15)

6.5 NPAC SOA Low-tech Interface

The NPAC SOA Low-tech Interface supports the request functionality of the SOA-to-NPAC SMS interface

RX6-2.1 NPAC SOA Low-tech Interface

NPAC SMS shall provide an NPAC SOA Low-tech Interface

RX6-2.2 SOA to NPAC SMS Create Subscription Versions administration requests via an NPAC SOA Low-tech Interface

NPAC SMS shall support Create Subscription Version requests via a secure, NPAC SOA Low-tech Interface

RX6-2.3 SOA to NPAC SMS Cancel Subscription Versions administration requests via an NPAC SOA Low-tech Interface

NPAC SMS shall support Cancel Subscription Version requests via a secure, NPAC SOA Low-tech Interface

RX6-2.4 SOA to NPAC SMS Modify Subscription Versions administration requests via an NPAC SOA Low-tech Interface

NPAC SMS shall support Modify Subscription Version requests via a secure, NPAC SOA Low-tech Interface

RX6-2.5 SOA to NPAC SMS Query Subscription Versions administration requests via an NPAC SOA Low-tech Interface

NPAC SMS shall support query of Subscription Versions via a secure, NPAC SOA Low-tech Interface

RX6-2.6 SOA to NPAC SMS Activate Subscription Versions administration requests via an NPAC SOA Low-tech Interface

NPAC SMS shall support Activation of Subscription Versions via a secure, NPAC SOA Low-tech Interface

RX6-2.7 SOA to NPAC SMS Disconnect Subscription Versions administration requests via an NPAC SOA Low-tech Interface

NPAC SMS shall allow NPAC personnel and users of the SOA-to-NPAC SMS interface to request disconnection of a Subscription Version via a secure, NPAC SOA Low-tech Interface

RR6-189 SOA to NPAC SMS Un-Do Cancel-Pending Subscription Version administration requests via an NPAC SOA Low-tech Interface

NPAC SMS shall support the ability to submit an un-do Cancel-Pending Subscription Version request via a secure, NPAC SOA Low-tech Interface (previously NANC 388)

RX6-3 SOA to NPAC SMS audit requests

NPAC SMS shall supportSOA-to-NPAC SMS audit requests for all, part or one Service Provider via the NPAC SOA Low-tech Interface

RR6-35 SOA to NPAC SMS Number Pool Block Create Request via the SOA Low-tech Interface

NPAC SMS shall allow NPAC Personnel and users of the SOA-to-NPAC SMS interface to request creation of a Number Pool Block via a secure, NPAC SOA Low-tech Interface

RR6-36 SOA to NPAC SMS Number Pool Block Modify Request via the SOA Low-tech Interface

NPAC SMS shall allow NPAC Personnel and users of the SOA-to-NPAC SMS interface to request modification of a Number Pool Block via a secure, NPAC SOA Low-tech Interface

RX6-4 NPAC SMS Notification Handling

NPAC SMS shall support, via a secure NPAC SOA Low-tech Interface, a method to view and locally capture notifications that have occurred for the service provider upon request

6.6 Request Retry Requirements

6.6.1 CMIP Request Retry Requirements

Note: This sub-section is a CMIP specific concept and applies only to the CMIP interface For the XML interface, messages are retried until successful

RR6-15 SOA Retry Attempts - Tunable Parameter

NPAC SMS shall provide a SOA Retry Attempts tunable parameter which defines the number of times a message will be sent to a SOA which has not acknowledged receipt of the message

RR6-16 SOA Retry Interval - Tunable Parameter

NPAC SMS shall provide a SOA Retry Interval tunable parameter, which defines the delay between sending a message to a SOA that has not acknowledged receipt of the message

RR6-17 SOA Retry Attempts - Tunable Parameter Modification

NPAC SMS shall allow the NPAC SMS Administrator to modify the SOA Retry Attempts tunable parameter

RR6-18 SOA Retry Interval - Tunable Parameter Modification

NPAC SMS shall allow the NPAC SMS Administrator to modify the SOA Retry Interval tunable parameter

RR6-19 SOA Retry Attempts - Tunable Parameter Default

NPAC SMS shall default the SOA Retry Attempts tunable parameter to 3 times

RR6-20 SOA Retry Interval - Tunable Parameter Default

NPAC SMS shall default the SOA Retry Interval tunable parameter to 2 minutes

RR6-21 SOA Activation Failure Retry

NPAC SMS shall resend the message a SOA Retry Attempts tunable parameter number of times to a SOA that has not acknowledged the receipt of the message once the SOA Retry Interval tunable parameter expires

RR6-22 LSMS Retry Attempts - Tunable Parameter

NPAC SMS shall provide an LSMS Retry Attempts tunable parameter which defines the number of times a message will be sent to a Local SMS which has not acknowledged receipt of the message

RR6-23 LSMS Retry Interval - Tunable Parameter

NPAC SMS shall provide an LSMS Retry Interval tunable parameter, which defines the delay between sending a message to a Local SMS that has not acknowledged receipt of the message

RR6-24 LSMS Retry Attempts - Tunable Parameter Modification

NPAC SMS shall allow the NPAC SMS Administrator to modify the LSMS Retry Attempts tunable parameter

RR6-25 LSMS Retry Interval - Tunable Parameter Modification

NPAC SMS shall allow the NPAC SMS Administrator to modify the LSMS Retry Interval tunable parameter

RR6-26 LSMS Retry Attempts - Tunable Parameter Default

NPAC SMS shall default the LSMS Retry Attempts tunable parameter to 3 times

RR6-27 LSMS Retry Interval - Tunable Parameter Default

NPAC SMS shall default the LSMS Retry Interval tunable parameter to 2 minutes

RR6-28 LSMS Activation Failure Retry

NPAC SMS shall resend the message an LSMS Retry Attempts tunable parameter number of times to a Local SMS that has not acknowledged the receipt of the message once the LSMS Retry Interval tunable parameter expires

6.6.2 XML Request Retry Requirements

Note: This sub-section is an XML specific function (retry until successful) and only applies to the XML interface For the CMIP interface, messages are retried on an x-by-y basis

RR6-221 XML Retries – Turn Off Continuous Retries

NPAC SMS shall provide a mechanism to end the continuous retries for a message queued to a Service Provider's XML Interface (Previously NANC 372, Req 16)

6.7 Recovery –

The following section defines Recovery functionality supported by the NPAC SMS to SOA interface and NPAC SMS-to-LSMS interface

Note: This sub-section is a CMIP specific concept and applies only to the CMIP interface For the XML interface, messages are retried until successful

RR6-84 Linked Replies Information – Sending Linked Replies During Recovery

NPAC SMS shall be capable of sending linked action replies, via the SOA-to-NPAC SMS Interface, and NPAC SMS-to-Local SMS Interface in response to a recovery request (previously NANC 187 Req 11)

RR6-85 Linked Replies Information – Service Provider SOA Linked Replies Indicator Sending of Linked Replies

NPAC SMS shall send Network and Notification Recovery Responses as Linked Replies, via the SOA-to-NPAC SMS Interface, if the Service Provider's SOA Linked Replies indicator is **TRUE,** and the amount of data is greater than the associated Blocking Factor tunable parameter (previously NANC 187 Req 4)

RR6-86 Linked Replies Information – Service Provider SOA Linked Replies Indicator Sending of Non-Linked Replies

NPAC SMS shall send Network and Notification Recovery Responses as Non-Linked Replies, via the SOA-to-NPAC SMS Interface, if the Service Provider's SOA Linked Replies indicator is **FALSE** (previously NANC 187 Req 5)

RR6-87 Linked Replies Information – Service Provider Local SMS Linked Replies Indicator Sending of Linked Replies

NPAC SMS shall send Network, Subscription, Number Pool Block and Notification Recovery Responses as Linked Replies, via the NPAC SMS-to-Local SMS Interface, if the Service Provider's Local SMS Linked Replies indicator is **TRUE**, and the amount of data is greater than the associated Blocking Factor tunable parameter (previously NANC 187 Req 9)

RR6-88 Linked Replies Information – Service Provider Local SMS Linked Replies Indicator Sending of Non-Linked Replies

NPAC SMS shall send Network, Subscription, Number Pool Block and Notification Recovery Responses as Non-Linked Replies, via the NPAC SMS-to-Local SMS Interface, if the Service Provider's Local SMS Linked Replies indicator is **FALSE** (previously NANC 187 Req 10)

RR6-122 SWIM Recovery Tracking

NPAC SMS shall provide functionality that tracks messages not sent to, and acknowledged by, a Service Provider SOA/LSMS for SWIM Recovery purposes (previously NANC 351, Req 1)

RR6-123 Service Provider SOA SWIM Recovery Indicator

NPAC SMS shall provide a Service Provider SOA SWIM Recovery Indicator tunable parameter which defines whether a SOA supports SWIM recovery (previously NANC 351, Req 2)

RR6-124 Service Provider SOA SWIM Recovery Indicator Default

NPAC SMS shall default the Service Provider SOA SWIM Recovery Indicator tunable parameter to FALSE (previously NANC 351, Req 3)

RR6-125 Service Provider SOA SWIM Recovery Indicator Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Service Provider SOA SWIM Recovery Indicator tunable parameter (previously NANC 351, Req 4)

RR6-126 SOA SWIM Maximum Tunable

NPAC SMS shall provide a SOA SWIM Maximum tunable parameter, which is defined as the maximum number of messages that will be stored by the NPAC for Service Providers that support SWIM recovery (previously NANC 351, Req 5)

RR6-127 SOA SWIM Maximum Tunable Default

NPAC SMS shall default the SOA SWIM Maximum tunable parameter to 50,000 (previously NANC 351, Req 6)

RR6-128 SOA SWIM Maximum Tunable Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the SOA SWIM Maximum tunable parameter (previously NANC 351, Req 7)

RR6-129 Service Provider LSMS SWIM Recovery Indicator

NPAC SMS shall provide a Service Provider LSMS SWIM Recovery Indicator tunable parameter, which defines whether a LSMS supports SWIM recovery (previously NANC 351, Req 8)

RR6-130 Service Provider LSMS SWIM Recovery Indicator Default

NPAC SMS shall default the Service Provider LSMS SWIM Recovery Indicator tunable parameter to FALSE (previously NANC 351, Req 9)

RR6-131 Service Provider LSMS SWIM Recovery Indicator Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Service Provider LSMS SWIM Recovery Indicator tunable parameter (previously NANC 351, Req 10)

RR6-190 LSMS SWIM Maximum Tunable

NPAC SMS shall provide a LSMS SWIM Maximum tunable parameter, which is defined as the maximum number of messages that will be stored by the NPAC for Service Providers that support SWIM recovery (previously, NANC 351, Req 11)

RR6-191 LSMS SWIM Maximum Tunable Default

NPAC SMS shall default the LSMS SWIM Maximum tunable parameter to 50,000 (previously NANC 351, Req 12)

RR6-192 LSMS SWIM Maximum Tunable Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the LSMS SWIM Maximum tunable parameter (previously NANC 351, Req 13)

RR6-199 Service Provider SOA SPID Recovery Indicator

NPAC SMS shall provide a Service Provider SOA SPID Recovery Indicator tunable parameter, which defines whether a SOA supports SPID recovery (NANC 351)

RR6-200 Service Provider SOA SPID Recovery Indicator Default

NPAC SMS shall default the SOA SPID Recovery Indicator tunable parameter to False (NANC 351)

RR6-201 Service Provider SOA SPID Recovery Indicator Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Service Provider SOA SPID Recovery Indicator tunable parameter (NANC 351)

RR6-202 Service Provider LSMS SPID Recovery Indicator

NPAC SMS shall provide a Service Provider LSMS SPID Recovery Indicator tunable parameter, which defines whether a LSMS supports SPID recovery (NANC 351)

RR6-203 Service Provider LSMS SPID Recovery Indicator Default

NPAC SMS shall default the LSMS SPID Recovery Indicator tunable parameter to False (NANC 351)

RR6-204 Service Provider LSMS SPID Recovery Indicator Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Service Provider LSMS SPID Recovery Indicator tunable parameter (NANC 351)

RR6-205 Service Provider SOA Cancel-Pending-to-Conflict Cause Code Tunable

NPAC SMS shall provide a Service Provider SOA Cancel-Pending-to-Conflict Cause Code tunable parameter which defines whether a SOA supports a Conflict message that uses the Cancel-Pending-to-Conflict Cause Code (previously NANC 138, Req 1 5, RR5-140)

NOTE: If True on a query and notification reply the NPAC SMS returns the cancel-pending-to-conflict cause code value If False on a query the NPAC SMS does not return the cancel-pending-to-conflict cause code value On a notification the NPAC SMS inserts a cause code value of "1" instead of the "cancel-pending-to-conflict" cause code value

RR6-206 Service Provider SOA Cancel-Pending-to-Conflict Cause Code Tunable Default

NPAC SMS shall default the Service Provider SOA Cancel-Pending-to-Conflict Cause Code tunable parameter to FALSE (previously NANC 138, Req 2, RR5-141)

RR6-207 Service Provider SOA Cancel-Pending-to-Conflict Cause Code Tunable Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Service Provider SOA Cancel-Pending-to-Conflict Cause Code tunable parameter (previously NANC 138, Req 3, RR5-142)

RR6-208 Service Provider LSMS Cancel-Pending-to-Conflict Cause Code Tunable

NPAC SMS shall provide a Service Provider LSMS Cancel-Pending-to-Conflict Cause Code tunable parameter which defines whether a LSMS supports a Conflict message that uses the Cancel-Pending-to-Conflict Cause Code (previously NANC 138)

NOTE: If True the NPAC SMS returns the cancel-pending-to-conflict cause code value on a query request If False the NPAC SMS does not return the cancel-pending-to-conflict cause code value on a query

RR6-209 Service Provider LSMS Cancel-Pending-to-Conflict Cause Code Tunable Default

NPAC SMS shall default the Service Provider LSMS Cancel-Pending-to-Conflict Cause Code tunable parameter to FALSE (previously NANC 138)

RR6-210 Service Provider LSMS Cancel-Pending-to-Conflict Cause Code Tunable Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Service Provider LSMS Cancel-Pending-to-Conflict Cause Code tunable parameter (previously NANC 138)

6.7.1 Notification Recovery

The following section defines specific requirements of the Notification Recovery functionality supported by the NPAC SMS

RR6-29 Notification Recovery

NPAC SMS shall support recovery of all CMIP notifications defined in the IIS that are emitted over the NPAC SMS-to-Local SMS interface and SOA-to-NPAC SMS interface Examples of notifications to be recovered include:

- subscriptionVersionNewNPA-NXX
- subscriptionVersionDonorSP-CustomerDisconnectDate
- subscriptionAudit-DiscrepancyRpt
- subscriptionAuditResults
- lnpNPAC-SMS-Operational-Information
- subscriptionVersionNewSP-CreateRequest (time sensitive T1 New SP)
- subscriptionVersionOld-SP-ConcurrenceRequest (time sensitive T1 Old SP)
- subscriptionVersionOldSPFinalWindowExpiration (time sensitive T2 Old SP)
- subscriptionVersionStatusAttributeValueChange
- numberPoolBlockStatusAttributeValueChange
- attributeValueChange
- objectCreation
- objectDeletion
- subscriptionVersionNewSP-FinalCreateWindowExpiration (if supported by the recovering SOA)
- subscriptionVersionRangeStatusAttributeValueChange
- subscriptionVersionRangeAttributeValueChange
- subscriptionVersionRangeObjectCreation
- subscriptionVersionRangeDonorSP-CustomerDisconnectDate
- subscriptionVersionRangeNewSP-CancellationAcknowledge
- subscriptionVersionRangeNewSP-CreateRequest
- subscriptionVersionRangeOldSP-ConcurrenceRequest
- subscriptionVersionRangeOldSPFinalConcurrenceWindowExpiration
- subscriptionVersionRangeNewSPFinalCreateWindowExpiration

For a complete list of notifications reference the IIS

RR6-79 TN Range Notification Information – Recovery of TN Range Notifications

NPAC SMS shall send TN Range Notifications during recovery that mimic the same TN Range Notifications that would have been received by the Service Provider had they been associated during the original broadcast of the TN Range Notifications (Formerly NANC 179 Req 8)

RR6-80 TN Range Notification Information – Single NPA-NXX

NPAC SMS shall only allow a TN Range Notification to be inclusive within a single NPA-NXX (Formerly NANC 179 Req 9)

RR6-81 TN Range Notifications – When They Will be Sent

NPAC SMS shall send, to Service Providers that have their TN Range Notification Indicator set to TRUE, the corresponding range notifications in place of the following notifications and their recovery counterpart:

- subscriptionVersionStatusAttributeValueChange
- subscriptionVersionAttributeValueChange
- subscriptionVersionObjectCreation
- subscriptionVersionDonorSP-CustomerDisconnectDate
- subscriptionVersionNewSP-CancellationAcknowledge
- subscriptionVersionNewSP-CreateRequest
- subscriptionVersionOldSP-ConcurrenceRequest
- subscriptionVersionOldSPFinalConcurrenceWindowExpiration
- subscriptionVersionNewSPFinalCreateWindowExpiration

(Formerly NANC 179 Req 10)

RR6-82 Range Sizes and Format of Notifications Sent in Recovery

NPAC SMS shall, during recovery, send a service provider's notifications in the original range sizes and in the format that corresponds to their TN Range Notification Indicator value at the time of recovery (Formerly NANC 179 Req 11)

RR6-30 Notification Recovery – Order of Recovery

NPAC SMS shall recover all notifications, failed or successful, in the order the NPAC SMS attempts to send them when notification recovery is requested by the SOA or LSMS

RR6-31 Notification Recovery – Time Range Limit

NPAC SMS shall use the Maximum Download Duration Tunable to limit the time range requested in a notification recovery request

RR6-32 Notification Recovery – SOA and LSMS Independence

NPAC SMS shall support the recovery of notifications for the SOA and LSMS as independent requests

RR6-33 Notification Recovery – SOA Notifications

NPAC SMS shall allow the SOA to only recover SOA notifications

RR6-83 Maintaining Priority of SOA Notifications During Recovery

NPAC SMS shall, during recovery, maintain the priority of the SOA Notifications that reflect the values of the SOA Notification Priority Tunable Parameter at the time the notification was created (Formerly NANC 329 Req 5 5)

RR6-34 Notification Recovery – LSMS Notifications

NPAC SMS shall allow the LSMS to only recover LSMS notifications

RR6-89 Linked Replies Information – Sending Linked Replies During Notification Data Recovery to SOA

NPAC SMS shall send notification data in response to a recovery request, via the SOA-to-NPAC SMS Interface, to a SOA that support Linked Replies, in groups of notifications based on the Notification Data Linked Replies Blocking Factor tunable parameter value (previously NANC 187 Req 24)

RR6-90 Linked Replies Information – Sending Linked Replies During Notification Data Recovery to Local SMS

NPAC SMS shall send notification data in response to a recovery request, via the NPAC SMS-to-Local SMS Interface, to a Local SMS that support Linked Replies, in groups of notifications based on the Notification Data Linked Replies Blocking Factor tunable parameter value (previously NANC 187 Req 25)

RR6-91 Linked Replies Information – Notification Data Recovery Maximum Size to SOA

NPAC SMS shall allow notification data in response to a recovery request, via the SOA-to-NPAC SMS Interface, to a SOA that support Linked Replies, to be as large as the Notification Data Maximum Linked Recovered Notifications tunable parameter value (previously NANC 187 Req 38)

RR6-96 Linked Replies Information – Notification Data Recovery Maximum Size to Local SMS

NPAC SMS shall allow notification data in response to a recovery request, via the NPAC SMS-to-Local SMS Interface, to a Local SMS that support Linked Replies, to be as large as the Notification Data Maximum Linked Recovered Notifications tunable parameter value (previously NANC 187 Req 39)

RR6-132 Notification Recovery – Notification Data Criteria

NPAC SMS shall require a SOA/LSMS to specify one of the following choices for notification data recovery criteria:

- Time-range
- SWIM (**S**end **W**hat **I M**issed)
- (previously NANC 351, Req 0 5)

6.7.2 Network Data Recovery

The following section defines specific requirements of the Network Data Recovery functionality supported by the NPAC SMS

RR6-37 Network Data Recovery

NPAC SMS shall provide a mechanism that allows a SOA or LSMS to recover network data downloads that were missed during a broadcast to the SOA or LSMS

RR6-38 Network Data Recovery – Order of Recovery

NPAC SMS shall recover all network data download broadcasts in time sequence order when network data recovery is requested by the SOA or LSMS

RR6-39 Network Data Recovery – Time Range Limit

NPAC SMS shall use the Maximum Download Duration Tunable to limit the time range requested in a network data recovery request

RR6-40 Network Data Recovery – SOA and LSMS Independence

NPAC SMS shall support the recovery of network data for the SOA and LSMS as independent requests

RR6-41 Network Data Recovery – SOA Network Data

NPAC SMS shall allow the SOA to only recover network data downloads intended for the SOA

RR6-42 Network Data Recovery – LSMS Network Data

NPAC SMS shall allow the LSMS to only recover network data downloads intended for the LSMS

RR6-43 Network Data Recovery – Network Data Criteria

NPAC SMS shall support the following network data download criteria:

- Single Service Provider or all Service Providers with optional time range
- **SWIM S**end **W**hat **I M**issed

RR6-44 Network Data Recovery – Network Data Choices

NPAC SMS shall require one of the following network data download choices:

- npa-nxx-data (with one of the two selections below)
  - npa-nxx-range
  - all
- lrn data (with one of the two selections below)
  - lrn-range
  - all
- all network data
- npa-nxx-x-data (with one of the two selections below)
  - npa-nxx-x-range
  - all

RR6-45 Resynchronization of Number Pool NPA-NXX-X Holder Information – Local SMS NPA-NXX-X Indicator set to TRUE

NPAC SMS shall process a Service Provider request to download Network data over the NPAC SMS-to-Local SMS Interface, when a Service Provider establishes an association with the resynchronization flag set to TRUE, and the download of NPA-NXX-X (or ALL) is TRUE, and shall ***send*** the NPA-NXX-X portion of the Network data when the Service Provider's NPAC Customer LSMS NPA-NXX-X Indicator is set to TRUE (Previously N-380)

RR6-46 Resynchronization of Number Pool NPA-NXX-X Holder Information – Local SMS NPA-NXX-X Indicator set to FALSE

NPAC SMS shall process a Service Provider request to download Network data over the NPAC SMS-to-Local SMS Interface, when a Service Provider establishes an association with the resynchronization flag set to TRUE, and the download of NPA-NXX-X (or ALL) is TRUE, and shall ***suppress*** the NPA-NXX-X portion of the Network data when the Service Provider's NPAC Customer LSMS NPA-NXX-X Indicator is set to FALSE (Previously N-390)

RR6-47 Resynchronization of Number Pool NPA-NXX-X Holder Information – NPA-NXX-X resync and queuing of messages to Local SMS

NPAC SMS shall queue up a single instance of all messages to the Local SMS, via the NPAC SMS-to-Local SMS Interface, when a Service Provider establishes an association with the NPAC SMS and where the resynchronization flag is set to TRUE (Previously N-392)

RR6-48 Resynchronization of Number Pool NPA-NXX-X Holder Information – NPA-NXX-X resync and sending of queued messages to Local SMS

NPAC SMS shall send queued up messages to the Local SMS, via the NPAC SMS-to-Local SMS Interface, when a Service Provider has sent a message to the NPAC SMS that resynchronization has been completed (Previously N-394)

RR6-49 Resynchronization of Number Pool NPA-NXX-X Holder Information – Filters on NPA-NXX-X resync to Local SMS

NPAC SMS shall apply NPA-NXX Filters to NPA-NXX-X resynchronization to the Local SMS(s) via the NPAC SMS-to-Local SMS Interface (Previously N-400)

RR6-50 Resynchronization of Number Pool NPA-NXX-X Holder Information – SOA NPA-NXX-X Indicator set to TRUE

NPAC SMS shall process a Service Provider request to download Network data over the SOA-to-NPAC SMS Interface, when a Service Provider establishes an association with the resynchronization flag set to TRUE, and the download of NPA-NXX-X (or ALL) is TRUE, and shall ***send*** the NPA-NXX-X portion of the Network data when the Service Provider's NPAC Customer SOA NPA-NXX-X Indicator is set to TRUE (Previously N-410)

RR6-51 Resynchronization of Number Pool NPA-NXX-X Holder Information – SOA NPA-NXX-X Indicator set to FALSE

NPAC SMS shall process a Service Provider request to download Network data over the SOA-to-NPAC SMS Interface, when a Service Provider establishes an association with the resynchronization flag set to TRUE, and the download of NPA-NXX-X (or ALL) is TRUE, and shall ***suppress*** the NPA-NXX-X portion of the Network data when the Service Provider's NPAC Customer SOA NPA-NXX-X Indicator is set to FALSE (Previously N-420)

RR6-52 Resynchronization of Number Pool NPA-NXX-X Holder Information – NPA-NXX-X resync and queuing of messages to SOA

NPAC SMS shall queue up a single instance of all messages to the SOA, via the SOA-to-NPAC SMS Interface, when a Service Provider establishes an association with the NPAC SMS and where the resynchronization flag is set to TRUE (Previously N-430)

RR6-53 Resynchronization of Number Pool NPA-NXX-X Holder Information – NPA-NXX-X resync and sending of queued messages to SOA

NPAC SMS shall send queued up messages to the SOA, via the SOA-to-NPAC SMS Interface, when a Service Provider has sent a message to the NPAC SMS that resynchronization has been completed (Previously N-440)

RR6-54 Resynchronization of Number Pool NPA-NXX-X Holder Information – Filters on NPA-NXX-X resync to SOA

NPAC SMS shall apply NPA-NXX Filters to NPA-NXX-X resynchronization to the SOA(s) via the SOA-to-NPAC SMS Interface (Previously N-450)

RR6-92 Linked Replies Information – Sending Linked Replies During Network Data Recovery to SOA

NPAC SMS shall send network data in response to a recovery request, via the SOA-to-NPAC SMS Interface, to a SOA that support Linked Replies, in groups of objects based on the Network Data Linked Replies Blocking Factor tunable parameter value (previously NANC 187 Req 15)

RR6-93 Linked Replies Information – Sending Linked Replies During Network Data Recovery to Local SMS

NPAC SMS shall send network data in response to a recovery request, via the NPAC SMS-to-Local SMS Interface, to a Local SMS that support Linked Replies, in groups of objects based on the Network Data Linked Replies Blocking Factor tunable parameter value (previously NANC 187 Req 16)

RR6-94 Linked Replies Information – Network Data Recovery Maximum Size to SOA

NPAC SMS shall allow network data in response to a recovery request, via the SOA-to-NPAC SMS Interface, to a SOA that support Linked Replies, to be as large as the Network Data Maximum Linked Recovered Objects tunable parameter value (previously NANC 187 Req 29)

RR6-95 Linked Replies Information – Network Data Recovery Maximum Size to Local SMS

NPAC SMS shall allow network data in response to a recovery request, via the NPAC SMS-to-Local SMS Interface, to a Local SMS that support Linked Replies, to be as large as the Network Data Maximum Linked Recovered Objects tunable parameter value (previously NANC 187 Req 30)

6.7.3 Subscription Data Recovery

The following section defines specific requirements of the Subscription Data Recovery functionality supported by the NPAC SMS

RR6-55 Subscription Data Recovery

NPAC SMS shall provide a mechanism that allows an LSMS to recover subscription data downloads that were missed during a broadcast to the LSMS

RR6-56 Subscription Data Recovery – Order of Recovery

NPAC SMS shall recover subscription data download broadcasts in time sequence order when subscription data recovery is requested by the LSMS

RR6-57 Subscription Data Recovery – Time Range Limit

NPAC SMS shall use the Maximum Download Duration Tunable to limit the time range requested in a subscription data recovery request

RR6-58 Subscription Data Recovery – Subscription Data Choices

NPAC SMS shall require an LSMS to specify one of the following choices in a subscription data recovery request:

- time-range
- TN
- TN-range (NPA-NXX-XXXX) – (YYYY)
- SWIM (**S**end **W**hat **I M**issed)

RR6-59 Subscription Data Recovery – Full Failure SV

NPAC SMS shall exclude Subscription Versions with a status of failed, when subscription data recovery is requested by the LSMS

RR6-60 Subscription Data Recovery – SV Timestamp for Requested Time Range

NPAC SMS shall use the Subscription Version's Broadcast Timestamp value to determine if an SV falls within the requested time range for a subscription data recovery request

RR6-97 Subscription Data Recovery – Statuses of Subscription Versions Recovered

NPAC SMS shall include Subscription Versions with a status of active, partial failure, disconnect-pending, old with a failed list, and sending, at the time subscription data recovery is requested by the Local SMS and processed by the NPAC SMS, for all Subscription Versions with broadcast activity during the requested recovery timeframe (previously NANC 297 Req 1)

RR6-61 Subscription Data Recovery – Removal of Service Provider from Failed List

NPAC SMS shall remove a Service Provider from the Failed SP List of an SV, upon successful recovery of the subscription data

RR6-98 Subscription Data Recovery – Removal of Service Provider from Failed SP List of Subscription Versions Recovered

NPAC SMS shall remove a Service Provider from the Failed SP List of a Subscription Version with a status of sending, even if there are additional retry attempts, after the subscription data recovery response has been sent to the Local SMS of that Service Provider (previously NANC 297 Req 2)

RR6-99 Subscription Data Recovery – Suppression of Broadcast of Subscription Versions Recovered

NPAC SMS shall ensure that the download of subscription data that was in a sending status at the start of the Subscription Data recovery process, even if there are additional retry attempts, is not sent to the Service Provider at the completion of recovery that included subscription data to the Local SMS (previously NANC 297 Req 3)

RR6-62 Subscription Data Recovery – Successful Recovery of SV Data and Removal of Service Provider from Failed List – Both Service Providers

NPAC SMS shall send, to the Old and New Service Providers, the status and a list of all Local SMSs that currently exist on the Failed SP List of an SV, upon successful recovery of the subscription data, with the exception of modify active or disconnect requests

RR6-63 Subscription Data Recovery – Successful Recovery of SV Data and Removal of Service Provider from Failed List – New Service Provider Only

NPAC SMS shall send, to the New Service Provider only, the status and a list of all Local SMSs that currently exist on the Failed SP List of an SV, upon successful recovery of the subscription data, specific to modify active or disconnect requests

RR6-133 Subscription Version Failed SP List – Recovery of Excluded Service Provider Subscription Versions

NPAC SMS shall, for a recovery of subscription data, in instances where the NPAC SMS excluded the Service Provider from the Failed SP List based on a request by NPAC Personnel via the NPAC Administrative Interface, allow the Local SMS to recover a Subscription Version with all current attributes, even though the Service Provider is no longer on the Failed SP List (previously NANC 227/254, Req 3)

RR6-64 Number Pool Block Holder Information Resynchronization – Block

NPAC SMS shall process a Service Provider request to download Block data over the NPAC SMS-to-Local SMS Interface, when a Service Provider establishes an association with the resynchronization flag set to TRUE, and requests Block data based on criteria sent to the NPAC SMS upon association (Previously B-690)

RR6-65 Number Pool Block Holder Information Resynchronization – Block Criteria

NPAC SMS shall accept criteria for Block data, of either Time Range in GMT or Block Range entry fields or SWIM, where the Time Range in GMT includes the starting time in GMT and ending time in GMT based on the Activation Start Timestamp/Disconnect Broadcast Timestamp/Modify Broadcast Timestamp, and the Block Range includes the starting Block and ending Block (Previously B-691)

Note: If the Block Range was 303-242-2 through 303-355-6, the range would contain all Blocks within the TN Range of 303-242-2000 through 303-355-6999

RR6-66 Number Pool Block Holder Information Resynchronization – Block Range Tunable Parameters

NPAC SMS shall use the existing Subscription Version tunables for Maximum Download Duration and Maximum Number of Download Records, as defined in the Functional Requirements Specification' s Appendix C, for Blocks that can be resynchronized by a Local SMS (Previously B-695)

RR6-67 Number Pool Block Holder Information Resynchronization – Rejection of Block Criteria

NPAC SMS shall reject a resynchronization request, if the criteria of either Time Range or Block Range, exceeds the current values of the Maximum Download Duration or Maximum Number of Download Records tunables (Previously B-698)

RR6-68 Number Pool Block Holder Information Resynchronization – Block resync and queuing of messages

NPAC SMS shall queue up a single instance of all messages to the Local SMS, via the NPAC SMS-to-Local SMS Interface, when a Service Provider establishes an association with the NPAC SMS and where the resynchronization flag is set to TRUE (Previously B-700)

RR6-69 Number Pool Block Holder Information Resynchronization – Block resync and sending of queued messages

NPAC SMS shall send, queued up messages to the Local SMS, via the NPAC SMS-to-Local SMS Interface, when a Service Provider has sent a message to the NPAC SMS that resynchronization has been completed (Previously B-710)

RR6-70 Number Pool Block Holder Information Resynchronization – Filters on Block resync

NPAC SMS shall apply NPA-NXX Filters to Block resynchronization to the Local SMS(s), via the NPAC SMS-to-Local SMS Interface (Previously B-720)

RR6-71 Number Pool Block Holder Information Resynchronization – Update to Failed SP List

NPAC SMS shall update the ***Block Failed SP List*** and ***Subscription Version Failed SP List***, by removing the resyncing Local SMS, upon a successful response to a resynchronization request to a previously failed Local SMS, as defined in RR3-138 1 and RR3-138 2 (Previously B-730)

RR6-100 Number Pool Block Data Recovery – Statuses of Number Pool Blocks Recovered

NPAC SMS shall include Number Pool Blocks with a status of active, partial failure, old with a failed list, and sending, at the time Number Pool Block data recovery is requested by the Local SMS and processed by the NPAC SMS, for all Number Pool Blocks with broadcast activity during the requested recovery timeframe (previously NANC 297 Req 4)

RR6-101 Number Pool Block Data Recovery – Removal of Service Provider from Failed SP List of Number Pool Blocks Recovered

NPAC SMS shall remove a Service Provider from the Failed SP List of a Number Pool Block with a status of sending, even if there are additional retry attempts, after the Number Pool Block data recovery response has been sent to the Local SMS of that Service Provider (previously NANC 297 Req 5)

RR6-134 Number Pool Block Failed SP List – Recovery of Excluded Service Provider Subscription Versions

NPAC SMS shall, for a recovery of number pool block data, in instances where the NPAC SMS excluded the Service Provider from the Failed SP List based on a request by NPAC Personnel via the NPAC Administrative Interface, allow the Local SMS to recover a Number Pool Block with all current attributes, even though the Service Provider is no longer on the Failed SP List (previously NANC 300, Req 3)

RR6-102 Number Pool Block Data Recovery – Suppression of Broadcast of Number Pool Blocks Recovered

NPAC SMS shall ensure that the download of Number Pool Block data that was in a sending status at the start of the Number Pool Block Data recovery process, even if there are additional retry attempts, is not sent to the Service Provider at the completion of recovery that included Number Pool Block data to the Local SMS (previously NANC 297 Req 6)

RR6-72 Number Pool Block Holder Information Resynchronization – Status Update to Block after Successful Resynchronization

NPAC SMS shall update the ***status*** of the Block, specified in the resynchronization request for a Block Creation, Modification, or Deletion, at the completion of the resynchronization to the Local SMS, as defined in RR3-137 1, RR3-137 2, RR3-137 3, and RR3-137 4 (Previously B-740)

RR6-73 Number Pooling Subscription Version Information Resynchronization – Filters on Subscription Versions Resync

NPAC SMS shall filter out Subscription Versions with LNP Type of POOL for Resynchronization of Subscription Version data (Previously SV-522)

RR6-74 Number Pooling Subscription Version Information Resynchronization – Disconnect or Port-To-Original of a TN within a Pooled 1K Block

DELETED

RR6-75 Number Pooling Subscription Version Information Resynchronization – Disconnect TN within a Pooled 1K Block to Local SMS

NPAC SMS shall, for a resync of a disconnect Subscription Version of a ported pooled TN, where the TN is contained within a Pooled 1K Block, allow the Local SMS to recover the Delete request of the Subscription Version that was active prior to the disconnect broadcast, regardless of its status, to a Local SMS (Previously SV-540)

Note: The NPAC SMS will resync an M-DELETE, to a Local SMS, of the Subscription Version (SV1) that was active prior to the disconnect request (SV2), as defined in the IIS Message Flows for Disconnect of a Ported Pooled Number, and regardless of the status on SV1

RR6-76 Number Pooling Subscription Version Information Resynchronization – Disconnect TN within a Pooled 1K Block to non-EDR Local SMS

DELETED

RR6-77 Number Pooling Subscription Version Information Resynchronization –Port-To-Original TN within a Pooled 1K Block to Local SMS

NPAC SMS shall, for a resync of a Port-To-Original Subscription Version of a ported pooled TN, where the TN is contained within a Pooled 1K Block, allow the Local SMS to recover the Delete request of the Subscription Version that was active prior to the Port-To-Original broadcast, regardless of its status, and regardless of the status of the Subscription Version that is used to generate the Port-To-Original request to the NPAC SMS, to a Local SMS (Previously SV-560)

Note: The NPAC SMS will resync an M-DELETE, to a Local SMS, of the Subscription Version (SV1) that was active prior to the Port-To-Original request (SV2), even though the Failed SP List resides on SV2, as defined in the IIS Message Flows for a Port-To-Original of a Ported Pooled Number, and regardless of the status on SV1 and SV2

RR6-78 Number Pooling Subscription Version Information Resynchronization – Port-To-Original TN within a Pooled 1K Block to non-EDR Local SMS

DELETED

RR6-103 Linked Replies Information – Sending Linked Replies During Subscription Data Recovery to Local SMS

NPAC SMS shall send subscription data in response to a recovery request, via the NPAC SMS-to-Local SMS Interface, to a Local SMS that support Linked Replies, in groups of objects based on the Subscription Data Linked Replies Blocking Factor tunable parameter value (previously NANC 187 Req 20)

RR6-104 Linked Replies Information – Subscription Data Recovery Maximum Size to Local SMS

NPAC SMS shall allow subscription data in response to a recovery request, via the NPAC SMS-to-Local SMS Interface, to a Local SMS that support Linked Replies, to be as large as the Subscription Data Maximum Linked Recovered Objects tunable parameter value (previously NANC 187 Req 34)

RR6-105 Linked Replies Information - Sending Linked Replies During Number Pool Block Recovery to Local SMS

NPAC SMS shall send number pool block data in response to a recovery request, via the NPAC SMS-to-Local SMS Interface, to a Local SMS that support Linked Replies, in groups of objects based on the Number Pool Block Data Linked Replies Blocking Factor tunable parameter value (Previously related to NANC 187)

RR6-106 Linked Replies Information - Number Pool Block Recovery Maximum Size to Local SMS

NPAC SMS shall allow number pool block data in response to a recovery request, via the NPAC SMS-to-Local SMS Interface, to a Local SMS that support Linked Replies, to be as large as the Number Pool Block Data Maximum Linked Recovered Objects tunable parameter value (Previously related to NANC 187)

6.7.4 Service Provider Recovery

RR6-135 Service Provider Data Recovery

NPAC SMS shall provide a mechanism that allows a SOA or LSMS to recover service provider downloads that were missed during a broadcast to the SOA or LSMS (previously NANC 352, Req 1)

RR6-136 Service Provider Data Recovery Only in Recovery Mode

NPAC SMS shall allow a SOA or LSMS to recover service provider data ONLY in recovery mode (previously NANC 352, Req 2)

RR6-137 Service Provider Data Recovery – Order of Recovery

NPAC SMS shall recover all service provider data download broadcasts in time sequence order when service provider recovery is requested by the SOA or LSMS (previously NANC 352, Req 3)

RR6-138 Service Provider Data Recovery – Time Range Limit

NPAC SMS shall use the Maximum Download Duration Tunable to limit the time range requested in a service provider data recovery request (previously NANC 352, Req 4)

RR6-139 Service Provider Data Recovery – SOA and LSMS Independence

NPAC SMS shall support the recovery of service provider data for the SOA and LSMS as independent requests (previously NANC 352, Req 5)

RR6-140 Service Provider Data Recovery – SOA Network Data

NPAC SMS shall allow the SOA to only recover service provider data downloads intended for the SOA (previously NANC 352, Req 6)

RR6-141 Service Provider Data Recovery – LSMS Network Data

NPAC SMS shall allow the LSMS to only recover service provider data downloads intended for the LSMS (previously NANC 352, Req 7)

RR6-142 Service Provider Data Recovery – Service Provider Data Criteria

NPAC SMS shall support the following service provider data download criteria:

- Single Service Provider with optional time range, or all Service Providers with optional time range
- **SWIM** (**S**end **W**hat **I** **M**issed)
- (previously NANC 352, Req 8)

RR6-143 Service Provider Data Recovery – Network Data Choices

- DELETED

RR6-144 Linked Replies Information – Sending Linked Replies During Service Provider Data Recovery to SOA

NPAC SMS shall send Service Provider data in response to a recovery request, via the SOA-to-NPAC SMS Interface, to a SOA that support Linked Replies, in groups of objects based on the Network Data Linked Replies Blocking Factor tunable parameter value (previously NANC 352, Req 10)

RR6-145 Linked Replies Information – Sending Linked Replies During Service Provider Data Recovery to Local SMS

NPAC SMS shall send Service Provider data in response to a recovery request, via the NPAC SMS-to-Local SMS Interface, to a Local SMS that support Linked Replies, in groups of objects based on the Network Data Linked Replies Blocking Factor tunable parameter value (previously NANC 352, Req 11)

RR6-146 Linked Replies Information – Service Provider Data Recovery Maximum Size to SOA

NPAC SMS shall allow Service Provider data in response to a recovery request, via the SOA-to-NPAC SMS Interface, to a SOA that support Linked Replies, to be as large as the Network Data Maximum Linked Recovered Objects tunable parameter value (previously NANC 352, Req 12)

RR6-147 Linked Replies Information – Service Provider Data Recovery Maximum Size to Local SMS

NPAC SMS shall allow Service Provider data in response to a recovery request, via the NPAC SMS-to-Local SMS Interface, to a Local SMS that support Linked Replies, to be as large as the Network Data Maximum Linked Recovered Objects tunable parameter value (previously NANC 352, Req 13)

6.8 Out-Bound Flow Control

Note: This sub-section applies to both the CMIP interface and the XML interface

RR6-148 Out-Bound Flow Control Upper Threshold Tunable

NPAC SMS shall provide an Out-Bound Flow Control Upper Threshold tunable parameter which is defined as the number of non-responsive messages sent to a SOA/LSMS before Out-Bound Flow Control is invoked, on a per association basis (previously NANC 368, Req 1)

RR6-149 Out-Bound Flow Control Upper Threshold Tunable Default

NPAC SMS shall default the Out-Bound Flow Control Upper Threshold tunable parameter to 100 messages (previously NANC 368, Req 2)

RR6-150 Out-Bound Flow Control Upper Threshold Tunable Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Out-Bound Flow Control Upper Threshold tunable parameter (previously NANC 368, Req 3)

RR6-151 Out-Bound Flow Control Lower Threshold Tunable

NPAC SMS shall provide an Out-Bound Flow Control Lower Threshold tunable parameter which is defined as the number of non-responsive messages sent to a SOA/LSMS that is in a Flow Control state before normal processing is resumed, on a per association basis (previously NANC 368, Req 4)

RR6-152 Out-Bound Flow Control Lower Threshold Tunable Default

NPAC SMS shall default the Out-Bound Flow Control Lower Threshold tunable parameter to 75 messages (previously NANC 368, Req 5)

RR6-153 Out-Bound Flow Control Lower Threshold Tunable Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Out-Bound Flow Control Lower Threshold tunable parameter (previously NANC 368, Req 6)

6.9 Roll-Up Activity and Abort Behavior

Note: This concept applies to both the CMIP interface and the XML interface, but abort processing applies only to the CMIP interface

RR6-154 Roll-Up Activity-Single Tunable

NPAC SMS shall provide a Roll-Up Activity Timer – Single tunable parameter, which is defined as the number of minutes before roll-up activity is initiated for an event involving a single SV (previously NANC 347/350, Req 1)

RR6-155 Roll-Up Activity-Single Tunable Default

NPAC SMS shall default the Roll-Up Activity Timer – Single tunable parameter to 15 minutes (previously NANC 347/350, Req 2)

RR6-156 Roll-Up Activity-Single Tunable Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Roll-Up Activity Timer – Single tunable parameter (previously NANC 347/350, Req 3)

RR6-157 Roll-Up Activity Timer Expire SVRange Tunable

NPAC SMS shall provide a Roll-Up Activity Timer Expire SVRange tunable parameter which is defined as the number of minutes before roll-up activity is initiated for an event involving a range of SVs (previously NANC 347/350, Req 4)

RR6-158 Roll-Up Activity Timer Expire SVRange Tunable Default

NPAC SMS shall default the Roll-Up Activity Timer Expire SVRange tunable parameter to 60 minutes (previously NANC 347/350, Req 5)

RR6-159 Roll-Up Activity Timer Expire SVRange Tunable Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Roll-Up Activity Timer Expire SVRange tunable parameter (previously NANC 347/350, Req 6)

RR6-160 Abort Processing Behavior Upper Threshold Tunable

NPAC SMS shall provide an Abort Processing Behavior Upper Threshold tunable parameter which is defined as the number of minutes before an NPAC abort will occur for a SOA/LSMS that has at least one outstanding message with a delta between the origination time and the current time that is equal to or greater than the tunable window, regardless of whether the SOA/LSMS has incurred any other activity (request or response) (previously NANC 347/350, Req 7)

RR6-161 Abort Processing Behavior Upper Threshold Tunable Default

NPAC SMS shall default the Abort Processing Behavior Upper Threshold tunable parameter to 60 minutes (previously NANC 347/350, Req 8)

RR6-162 Abort Processing Behavior Upper Threshold Tunable Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Abort Processing Behavior Upper Threshold tunable parameter (previously NANC 347/350, Req 9)

RR6-222 Abort Behavior – CMIP Interface Only

NPAC SMS shall support Abort Behavior in the CMIP Interface (Previously NANC 372, Req 17)

6.10NPAC Monitoring of SOA and LSMS Associations

Note: This monitoring concept applies to both the CMIP interface and the XML interface, but abort processing for heartbeat non-response applies only to the CMIP interface For the CMIP interface, heartbeat is used For the XML interface, HTTPS keepalive is used

RR6-163 NPAC SMS Monitoring of SOA and Local SMS Connections via an Application Level Heartbeat

NPAC SMS shall be capable of supporting an Application Level Heartbeat via an Application Level Heartbeat message to a Service Provider SOA/Local SMS (previously NANC 299, Req 1)

RR6-164 NPAC SMS to SOA Application Level Heartbeat Indicator

NPAC SMS shall provide a Service Provider SOA Application Level Heartbeat Indicator tunable parameter which defines whether a SOA supports an Application Level Heartbeat message (previously NANC 299, Req 2)

RR6-165 NPAC SMS to SOA Application Level Heartbeat Indicator Default

NPAC SMS shall default the Service Provider SOA Application Level Heartbeat Indicator tunable parameter to FALSE (previously NANC 299, Req 3)

RR6-166 NPAC SMS to SOA Application Level Heartbeat Indicator Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Service Provider SOA Application Level Heartbeat Indicator tunable parameter (previously NANC 299, Req 4)

RR6-167 NPAC SMS-to-Local SMS Application Level Heartbeat Indicator

NPAC SMS shall provide a Service Provider Local SMS Application Level Heartbeat Indicator tunable parameter which defines whether an Local SMS supports an Application Level Heartbeat message (previously NANC 299, Req 5)

RR6-168 NPAC SMS-to-Local SMS Application Level Heartbeat Indicator Default

NPAC SMS shall default the Service Provider Local SMS Application Level Heartbeat Indicator tunable parameter to FALSE (previously NANC 299, Req 6)

RR6-169 NPAC SMS-to-Local SMS Application Level Heartbeat Indicator Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Service Provider Local SMS Application Level Heartbeat Indicator tunable parameter (previously NANC 299, Req 7)

RR6-170 NPAC SMS Application Level Heartbeat Tunable Parameter

NPAC SMS shall provide an Application Level Heartbeat Interval tunable parameter that defines the period of quiet time (no interface traffic) the NPAC should wait after the receipt of any interface traffic (request or response), before sending an Application Level Heartbeat message to the SOA/Local SMS (previously NANC 299, Req 8)

RR6-171 NPAC SMS Application Level Heartbeat Tunable Parameter Usage

NPAC SMS shall use the same tunable value for both SOA and the Local SMS Associations (previously NANC 299, Req 9)

RR6-172 NPAC SMS Application Level Heartbeat Tunable Parameter Default

NPAC SMS shall default the Application Level Heartbeat Interval tunable parameter to 15 minutes (previously NANC 299, Req 10)

RR6-173 NPAC SMS Application Level Heartbeat Tunable Parameter Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the NPAC SMS Application Level Heartbeat tunable parameter (previously NANC 299, Req 11)

RR6-174 NPAC SMS Application Level Heartbeat Timeout Tunable Parameter

NPAC SMS shall provide an Application Level Heartbeat Timeout tunable parameter that defines the period of time the NPAC should wait after sending an Application Level Heartbeat message to the SOA/Local SMS and not receiving a response from the SOA/Local SMS, before aborting the association (CMIP only) (previously NANC 299, Req 12)

RR6-175 NPAC SMS Application Level Heartbeat Timeout Tunable Parameter Usage

NPAC SMS shall use the same tunable value for both SOA and the Local SMS Associations (previously NANC 299, Req 13)

RR6-176 NPAC SMS Application Level Heartbeat Timeout Tunable Parameter Default

NPAC SMS shall default the Application Level Heartbeat Timeout tunable parameter to 1 minute (previously NANC 299, Req 14)

RR6-177 NPAC SMS Application Level Heartbeat Timeout Tunable Parameter Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the NPAC SMS Application Level Heartbeat Timeout tunable parameter (previously NANC 299, Req 15)

Note: An HTTPS Keep-Alive mechanism will be used to control the connection persistence through directives in the HTTPS header for the XML interface There will be two types of Keep-Alives, HTTPS and Application Heartbeat

RR6-223 HTTPS Keep-Alive Timeframe Tunable Parameter

NPAC SMS shall provide a tunable parameter which is defined as the HTTPS keep-alive timeframe (Previously NANC 372, Req 18)

Note: HTTPS keep-alive timeframe will be turned off when this tunable parameter is set to 0

RR6-224 HTTPS Keep-Alive Timeframe Tunable Parameter Modification

NPAC SMS shall provide a mechanism for NPAC Personnel to modify the HTTPS Keep-Alive Timeframe Tunable Parameter (Previously NANC 372, Req 19)

RR6-225 HTTPS Keep-Alive Timeframe Tunable Parameter – Default Value

NPAC SMS shall default the HTTPS Keep-Alive Timeframe Tunable Parameter to 2 minutes (Previously NANC 372, Req 20)

RR6-226 XML Application Inactivity Heartbeat Tunable Parameter

NPAC SMS shall provide a tunable parameter which is defined as the XML Application Inactivity Heartbeat duration (Previously NANC 372, Req 21)

Note: XML Application Heartbeat has a minimum value of one (1) minute

RR6-227 XML Application Inactivity Heartbeat Tunable Parameter Modification

NPAC SMS shall provide a mechanism for NPAC Personnel to modify the XML Application Inactivity Heartbeat Tunable Parameter (Previously NANC 372, Req 22)

RR6-228 XML Application Inactivity Heartbeat Tunable Parameter – Default Value

NPAC SMS shall default the XML Application Inactivity Heartbeat Tunable Parameter to 15 minutes (Previously NANC 372, Req 23)

6.11 Separate SOA Channel for Notifications

Note: This concept of multiple channels applies only to the CMIP interface

RR6-178 SOA Notification Channel Service Provider Indicator

NPAC SMS shall provide a Service Provider SOA Notification Channel indicator which defines whether a SOA supports a separate SOA association dedicated to notifications (previously NANC 383, Req 1)

RR6-179 SOA Notification Channel Service Provider Indicator – Default

NPAC SMS shall default the Service Provider SOA Notification Channel indicator to FALSE (previously NANC 383, Req 2)

RR6-180 SOA Notification Channel Service Provider Indicator – Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Service Provider SOA Notification Channel indicator (previously NANC 383, Req 3)

RR6-181 Separation of Association Functions

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RR6-182 Separate Association for the Notification Function From different NSAPs

NPAC SMS shall accept a separate association from the SOA for the Notification function from different Service Provider NSAPs, when the SOA Notification Channel tunable is set to TRUE (previously NANC 383, Req 5)

RR6-183 Security Management of Multiple SOA Associations of Different Association Functions

NPAC SMS shall manage security for multiple SOA associations of different association functions from different Service Provider NSAPs (previously NANC 383, Req 6)

RR6-184 Sending of SOA Notifications when Notification Channel is Active

NPAC SMS shall send notifications for a particular Service Provider across a Notification Channel when it is active (previously NANC 383, Req 7)

RR6-185 Separate Notification Channel during Recovery

NPAC SMS shall only allow a separate Notification Channel association to request notification recovery, when the Service Provider SOA Notification Channel tunable is TRUE (previously NANC 383, Req 8)

RR6-186 Treatment of Multiple Associations when there is an Intersection of Association Function

NPAC SMS shall accept an association bind request, in the case of an intersection of the association functions of an existing SOA association, and abort any previous associations that use that same function (previously NANC 383, Req 9)

6.12 Maintenance Window Timer Behavior

RR6-187 NPAC Maintenance Windows – Timer Update Tool

NPAC SMS shall support a "Knowledgeable-Internal-NPAC-Generation – Timer-Update-Tool" that would update applicable timer events based on an input parameter that defined the amount of time the timers should be extended (previously NANC 385, Req 1)

RR6-188 NPAC Maintenance Windows – Timer Update Tool – Affected Timers

NPAC SMS shall use the "Knowledgeable-Internal-NPAC-Generation – Timer-Update-Tool" to update the following timers:

- Initial Concurrence Window (New SPID and Old SPID, Short and Long)
- Final Concurrence Window (New SPID and Old SPID, Short and Long)
- Cancellation Initial Concurrence Window (New SPID and Old SPID, Short and Long)
- Cancellation Final Concurrence Window (New SPID and Old SPID, Short and Long)

(previously NANC 385, Req 2)

6.13 XML Message Batching

RR6-229 XML Message Batching – Functionality

NPAC SMS shall support batching of multiple requests and replies into a single HTTPS POST message in the XML interface (Previously NANC 372, Req 24)

RR6-230 XML Message Batching – Maximum Byte Size Tunable Parameter

NPAC SMS shall provide a tunable parameter which is defined as the XML Message Batching Maximum Byte Size (Previously NANC 372, Req 25)

Note: A single (non-batched) message is not permitted to exceed this size The range for this tunable is 1 to 5MB

RR6-231 XML Message Batching – Maximum Byte Size Tunable Parameter Modification

NPAC SMS shall provide a mechanism for NPAC Personnel to modify the XML Message Batching Maximum Byte Size Tunable Parameter (Previously NANC 372, Req 26)

RR6-232 XML Message Batching – Maximum Byte Size Tunable Parameter – Default Value

NPAC SMS shall default the XML Message Batching Maximum Byte Size Tunable Parameter to 1MB (Previously NANC 372, Req 27)

RR6-233 XML Message Batching – Maximum Batch Size Tunable Parameter

NPAC SMS shall provide a tunable parameter which is defined as the XML Message Batching Maximum Batch Size (Previously NANC 372, Req 28)

Note: The range for this tunable is one (1) to one hundred (100), inclusive

RR6-234 XML Message Batching – Maximum Batch Size Tunable Parameter Modification

NPAC SMS shall provide a mechanism for NPAC Personnel to modify the XML Message Batching Maximum Batch Size Tunable Parameter (Previously NANC 372, Req 29)

RR6-235 XML Message Batching – Maximum Batch Size Tunable Parameter – Default Value

NPAC SMS shall default the XML Message Batching Maximum Batch Size Tunable Parameter to 100 (Previously NANC 372, Req 30)

RR6-236 XML Message Batching – Maximum Batch Size and Byte Size Tunable Parameters – Usage

NPAC SMS shall use the XML Message Batching Maximum Byte Size tunable parameter value and the XML Message Batching Maximum Batch Size tunable parameter value when determining XML message batch size (Previously NANC 372, Req 31)

6.14XML Message Delegation

RR6-237 XML Message Delegation – Functionality

NPAC SMS shall support a delegation mechanism in the XML interface that allows a delegate SPID SOA to submit a request on behalf of a request SPID SOA (Previously NANC 372, Req 32)

Note: Upon validation of the SOA delegation relationship, the request is evaluated as if received from the request SPID The response to a request is sent to the delegate SPID, not the request SPID Delegation applies to the SOA, not to the LSMS

RR6-238 XML Message Delegation – Relationship Establishment

NPAC SMS shall provide a mechanism for NPAC Personnel to establish the SOA delegation relationship of a delegate SPID to a request SPID via the NPAC Administrative Interface (Previously NANC 372, Req 33)

Note: The SOA delegation relationship can be from any one SPID to any other SPID Delegation applies to the XML SOA and NPAC Low-Tech Interface, not to the LSMS

RR6-239 XML Message Delegation – Relationship Removal by NPAC Personnel

NPAC SMS shall provide a mechanism for NPAC Personnel to remove the SOA delegation relationship of the delegate SPID to the request SPID via the NPAC Administrative Interface (Previously NANC 372, Req 34)

Note: Messages queued for the request SPID as a result of an activity from the delegate SPID will not be affected

RR6-240 XML Message Delegation – Relationship Removal upon SPID Removal

NPAC SMS shall remove the SOA delegation relationship of the delegate SPID to the request SPID upon deletion of the delegate SPID (Previously NANC 372, Req 35)

RR6-241 XML Message Delegation – Notifications

NPAC SMS shall send all notifications for a request SPID to both the request SPID and the delegate SPID(s) (Previously NANC 372, Req 36)

Note: The delegate SPID(s) must support the notification in order to receive it

RR6-242 XML SPID Delegation – Audit Requests

NPAC SMS shall not allow an audit request to be submitted by a delegate on behalf of a request SPID (Previously NANC 372, Req 37)

Note: Delegates should request audits using their own SPID value

RR6-243 SPID Delegation – NPAC Personnel

NPAC SMS shall allow NPAC Personnel to view all request SPIDs related to a delegate SPID via the NPAC Administrative Interface (Previously NANC 372, Req 38)

6.15 XML Notification Consolidation

RR6-244 XML Notification Consolidation – Attributes and Status

NPAC SMS shall combine attribute value change (AVC) notifications and status attribute value change (SAVC) notifications into one AVC message for scenarios where both notifications are created for an XML SOA (Previously NANC 372, Req 39)

Note: Refer to the IIS for the list of scenarios

RR6-245 XML Notification Consolidation – Audits

NPAC SMS shall consolidate audit-related notifications into one audit results notification message as described in the XIS (Previously NANC 372, Req 40)

Note: Refer to the IIS for the audit message flows

6.16 XML Query Reply

RR6-246 XML Query Reply – Functionality

NPAC SMS shall support query expressions in the XML interface, with a limitation to ensure too much data is not requested and processed (Previously NANC 372, Req 41)

RR6-247 XML Query Reply – Maximum Byte Size Tunable Parameter

NPAC SMS shall provide a tunable parameter which is defined as the XML Query Reply Maximum Byte Size (Previously NANC 372, Req 42)

Note: A query reply of results-too-large is returned in the basic code if the query reply byte size is exceeded

RR6-248 XML Query Reply – Maximum Byte Size Tunable Parameter Modification

NPAC SMS shall provide a mechanism for NPAC Personnel to modify the XML Query Reply Maximum Byte Size Tunable Parameter (Previously NANC 372, Req 43)

RR6-249 XML Query Reply – Maximum Byte Size Tunable Parameter – Default Value

NPAC SMS shall default the XML Query Reply Maximum Byte Size Tunable Parameter to 1,000,000 (Previously NANC 372, Req 44)

6.17 XML Concurrent HTTPS Connections

RR6-250 XML Concurrent HTTPS Connections – Functionality

NPAC SMS shall support multiple concurrent incoming and outgoing HTTPS connections in the XML interface, per Service Provider ID, up to a maximum number (Previously NANC 372, Req 45)

RR6-251 XML Concurrent HTTPS Connections – Message Ordering – Functionality

NPAC SMS shall support object level message ordering validation with HTTPS connections in the XML interface (Previously NANC 372, Req 46)

RR6-252 XML Concurrent HTTPS Connections – Message Ordering – Origination and Activity Timestamps

NPAC SMS shall ensure that objects contain an Origination Timestamp and Activity Timestamp to support message ordering (Previously NANC 372, Req 47)

Note: The objects include, SV (includes New SP Origination Timestamp and Old SP Origination Timestamp), Number Pool Block, NPA-NXX, NPA-NXX-X, LRN, and SPID

RR6-253 XML Concurrent HTTPS Connections – Message Ordering – Error Message

NPAC SMS shall issue an error message to the SOA or Local SMS when the message ordering validation encounters a message ordering error (Previously NANC 372, Req 48)

7. Security

7.1 Overview

In addition to the general security requirements based on the user interface paradigm, there are requirements for the security on an OSI application-to-application interface (such as the one specified in Section 6, ***NPAC SMS Interfaces***, for the SMS-to-Local SMS interface and SMS to SOA interface)

Note: The same high-level of security applies to both the CMIP interface and the XML interface

7.2 Identification

The NPAC will accept only authorized NPAC customers through interface connections, and among NPAC customers, the NPAC will make appropriate limitations on their actions (for example, letting only old or new Service Providers view a pending record) The NPAC will only accept authorized customer user IDs However, the NPAC will make no distinction among an NPAC customer's employees; the NPAC customer and their systems must control individual NPAC customer employee actions

A user identification is a unique, auditable representation of the user's identity within the system The NPAC SMS requires all system users, both individuals and remote machines, to be uniquely identified to support individual accountability over the NPAC Administrative Interface and NPAC SOA Low-tech Interface

R7-l Unique User Identification Codes - Individuals

NPAC SMS shall require unique user identification codes (userids) to identify all NPAC and Service Provider personnel

R7-2 Assigned Userid Identification

NPAC SMS shall require NPAC and Service Provider personnel to identify themselves with their assigned userId before performing any actions

R7-3 Current Active User List Maintenance

NPAC SMS shall maintain internally the identity of all NPAC and Service Provider personnel logged on to the NPAC SMS

R7-4 User Invoked Processes

NPAC SMS shall have for every process running an associated userId of the invoking user (or the userId associated with the invoking process)

R7-5.1 Userids, Unused - Disabling

NPAC SMS shall disable userids after a period of time during which the userId has not been used

Note: A User can access their disabled account using their old password, and reset to a new password, in order to reactivate their account A User attempting to login to an account that has been disabled will only have access to the

password change screen where they will be required to change their password to continue Until reactivated, resetting to a new password is the only accessible functionality for the account

R7-5.2 Unused Userid Disable Period - Tunable Parameter

NPAC SMS shall provide an Unused Userid Disable Period tunable parameter which is defined as the number of days for which the userId has not been used

R7-5.3 Unused Userid Disable Period - Tunable Parameter Modification

NPAC SMS shall allow the NPAC SMS administrator to modify the Unused Userid Disable Period tunable parameter time period

R7-5.4 Unused Userid Disable Period - Tunable Parameter Default

NPAC SMS shall default the Unused Userid Disable Period tunable parameter to 60 days

R7-6.1 Userids, Disabled - Reinstatement

NPAC SMS shall provide a complementary mechanism or procedure for the re-instatement disabled userids

R7-6.2 Userids - Deletion

NPAC SMS shall provide a procedure for the deletion of userids

R7-7 Userids - Temporary Disabling

NPAC SMS shall support the temporary disabling of userids

R7-8 Userids, Disabled - Automatic Reactivation

NPAC SMS shall provide an option for automatic reactivation of disabled userids

R7-9.1 Userids - One Active Login

NPAC SMS shall control and limit simultaneous active usage of the same userids by allowing only one active login

R7-9.2 Second Login Attempt

NPAC SMS shall present the NPAC or Service Provider personnel with an option of disconnecting the first login and continuing the second login or terminating the second login, when a second login is entered

7.3 Authentication

The identity of all NPAC SMS system users, both individuals and remote machines, must be verified or authenticated to enter the system, and to access restricted data or transactions over the NPAC Administrative Interface and NPAC SOA Low-Tech Interface

R7-10 User Authentication

NPAC SMS shall authenticate the identity of all NPAC and Service Provider users of the NPAC Administrative Interface and NPAC SOA Low-tech Interface prior to their initially gaining access to NPAC SMS

R7-12 Authentication Data Protection

NPAC SMS shall protect all internal storage of authentication data so that it can only be accessed by an NPAC Security Administrator user

7.3.1 Password Requirements

R7-13 Passwords - Non-shared

NPAC SMS shall require a single password entry for each userId

R7-14 Passwords - Userid Unique

NPAC SMS shall allow a user to define a password that is already associated with another userId

R7-15 Passwords - One-Way Encrypted

NPAC SMS shall store passwords in a one-way encrypted form

R7-16 Passwords, Encrypted - Privileged Users Access Control

NPAC SMS shall only allow access to encrypted passwords by authorized users

R7-18 Passwords, Entry - Automatic Clear Text Suppression

NPAC SMS shall automatically suppress or fully blot out the clear-text representation of the password on the data entry device

R7-19 Passwords - Network Transmission Clear Text Suppression

NPAC SMS shall ensure that passwords sent over public or external shared data networks are encrypted

R7-20 Passwords - Non-Null

NPAC SMS shall require non-null passwords

R7-21 Passwords - User-Changeable

NPAC SMS shall provide a mechanism to allow passwords to be user-changeable This mechanism shall require re-authentication of the user identity

R7-22 Passwords - Reset Capability

The NPAC SMS shall have a mechanism to reset passwords

R7-23.1 Passwords - Aging Enforcement

NPAC SMS shall enforce password aging

R7-23.2 Password Aging Default

NPAC SMS shall default the system password aging to 90 days

R7-24.1 Passwords - Expiration Notification

NPAC SMS shall notify users a NPAC-specifiable period of time prior to their password expiring The system supplied default shall be seven days

R7-24.2 Passwords - Expiration Notification Default

NPAC SMS shall default the password expiration notification time period to seven days

R7-24.3 Passwords - Require User to Enter New Password

NPAC SMS shall require any user whose password has expired to enter a new password before allowing that user access to the system

R7-25.1 Passwords - Non-Reusable

NPAC SMS shall ensure that a password can not be reused by the same individual for specifiable period of time

R7-25.2 Password Reuse Default

NPAC SMS shall default the time period in which a password can not be reused to six months

R7-26.1 Passwords - Minimum Structure Standard #1

Passwords shall contain a combination of at least six case-sensitive alphanumeric characters including at least one alphabetic and one numeric or punctuation character

R7-26.2 Passwords - Associated Userid

NPAC SMS shall ensure that passwords do not contain the associated userId

R7-27.1 Password Generator

NPAC SMS shall provide a password generator

R7-27.2 Passwords, System Generated - Attack Resistant

NPAC SMS shall ensure that generated passwords are "reasonably" resistant to brute-force password guessing attacks

R7-27.3 Passwords, System Generated - Random

NPAC SMS shall ensure that the generated sequence of passwords have the property of randomness

7.4 Access Control

Access to the NPAC SMS and other resources will be limited to those users that have been authorized for that specific access right

7.4.1 System Access

R7-28.1 System Access - Individuals

NPAC SMS shall allow access to authorized individual users

R7-28.2 System Access - Remote Machines

NPAC SMS shall allow access to authorized remote systems

R7-29.1 System Access, User Information - Entry

NPAC SMS shall provide a facility for the initial entry of authorized user and associated authentication information

R7-29.2 System Access, User Information - Modification

NPAC SMS shall provide a facility for the modification of authorized user and associated authentication information

R7-31 System Access, Login - Trusted Communication

NPAC SMS's login procedure shall be able to be reliably initiated by the user, i e , a trusted communications path should exist between NPAC SMS and the user during the login procedure

R7-32.1 System Access - Disconnect User

NPAC SMS shall disconnect end users after a period of non-use

R7-32.2 Non-use Disconnect Tunable Parameter

NPAC SMS shall default the Non-use Disconnect tunable parameter to 60 minutes

R7-33.1 System Access - User Authentication Failure

NPAC SMS shall exit and end the session if the user authentication procedure is incorrectly performed a specifiable number of times

R7-33.2 Incorrect Login Exit Default

NPAC SMS shall default the number of allowable incorrect login attempts to 3

R7-34 System Access, User Authentication Failure - Notification

NPAC SMS shall provide a mechanism to immediately notify the NPAC SMS system administrator when the threshold in R7-33 1 is exceeded

R7-35.1 System Access - Login Process I/O Port Restart

NPAC SMS shall restart the login process when the threshold in R7-33 1 has been exceeded and a specified interval of time has passed

R7-35.2 Login Process Restart Default

NPAC SMS shall default the time interval to restart the login process to 60 seconds

R7-36 System Access, User Authentication Failure - Userid Non-Suspension

NPAC SMS shall not suspend the userId upon exceeding the threshold in R7-33 1

R7-37 System Access, User Authentication Procedure - Entry

NPAC SMS shall perform the entire user authentication procedure even if the userId that was entered was not valid

R7-38 System Access, User Authentication Procedure Entry - Error Feedback

NPAC SMS shall only provide error feedback of "invalid"

R7-39 System Access, User Authentication Procedure Entry - Time Parameters

NPAC SMS shall provide a mechanism to restrict user login based on time-of-day, day-of-week, and calendar date

R7-40.1 System Access, User Authentication Procedure Entry - Method

NPAC SMS shall provide a mechanism to restrict user login based on method of entry

R7-40.2 System Access, User Authentication Procedure Entry - Location

NPAC SMS shall provide a mechanism to restrict user login based on user system location

R7-41 System Access, User Authentication Procedure Entry - SSL VPN Limitations

NPAC SMS shall provide a mechanism to limit the users authorized to access the system via SSL VPN facilities

R7-42.1 System Access - Network Basis

NPAC SMS shall provide a mechanism to limit system entry for privileged NPAC SMS users on a specifiable network access

R7-42.2 System Access - Per-Port Basis

NPAC SMS shall provide a mechanism to limit system entry for privileged NPAC SMS users on a specifiable per-port basis

R7-43.1 System Access, Network Authentication

NPAC SMS shall provide a strong authentication mechanism for network access

R7-43.2 Internet Access

NPAC SMS shall use authentication of public encryption keys for users accessing the NPAC SMS over the Internet

R7-43.3 SSL VPN Access

NPAC SMS shall use smart cards to authenticate users accessing the NPAC SMS via SSL VPN

R7-44 System Access - Secure Logoff Procedures

NPAC SMS shall provide a mechanism to end the session through secure logoff procedures

R7-46 System Access, Unauthorized Use Message - Specifiable

NPAC SMS shall ensure that the message is NPAC SMS-specifiable to meet their own requirements, and any applicable laws

R7-47.1 System Access, Unauthorized Use Message - Specifiable

NPAC SMS shall be able to display an advisory warning message of up to 20 lines in length prior to login

R7-47.2 Advisory Warning Message Default

NPAC SMS shall default the pre-login advisory warning message to the following:

NOTICE: This is a private computer system.
Unauthorized access or use may lead to prosecution.

R7-48.1 System Access - User's Last Successful Access

NPAC SMS shall display the date and time of the user's last successful system access upon successful login

R7-48.2 System Access - User's Unsuccessful Access Attempts

NPAC SMS shall display the number of unsuccessful attempts by that userId to access the system, since the last successful access by that userId upon successful login

R7-49.1 System Access, Security Administration - Authorize Users

NPAC SMS shall only allow the NPAC Security Administrator to authorize users

R7-49.2 System Access, Security Administration - Revoke Users

NPAC SMS shall only allow the NPAC Security Administrator to revoke users

R7-50.1 System Access, Security Administration -Adding Users

NPAC SMS shall provide security documentation that defines and describes procedures for adding users

R7-50.2 System Access, Security Administration -Deleting Users

NPAC SMS shall provide security documentation that defines and describes procedures for deleting users

7.4.2 Resource Access

R7-51 Data Access for Authorized Users

NPAC SMS shall allow only authorized users to access the data that is part of or controlled by the SMS system

R7-52 Service Provider Data Protected

NPAC SMS shall protect service provider data from access by unauthorized users

R7-53.1 Authorized User Access to Software

NPAC SMS shall ensure that only NPAC system administrators can access the software files that constitute the NPAC SMS

R7-53.2 Authorized User Access to Transactions

NPAC SMS shall ensure that only authorized users can access the transactions that constitute the NPAC SMS

R7-53.3 Authorized User Access to Data

NPAC SMS shall ensure that only authorized NPAC Administrative Interface and NPAC SOA Low-tech Interface users can access the data generated by the transactions that constitutes the SMS

R7-54.1 Access Control of Executable Software

NPAC SMS shall ensure that the executable and loadable software is access controlled for overwrite and update, as well as execution rights

R7-55 Access Control of Resources

NPAC SMS shall ensure that control of access to resources is based on authenticated user identification

R7-56 User ID and System ID

NPAC SMS shall ensure that userId and password is used as a primary access control for direct login and system ID is used for primary access control to the SOA-to-NPAC SMS interface and the NPAC SMS-to-Local SMS interface

R7-57 Resource Access to Users

NPAC SMS shall ensure that for software resources controlled by NPAC SMS, it must be possible to grant access rights to a single user or a group of users

R7-58 Resource Access Denied to Users

NPAC SMS shall ensure that for software resources controlled by NPAC SMS, it must be possible to deny access rights to a single user or a group of users

R7-60 Only NPAC Personnel Can Modify User Access

NPAC SMS shall allow only NPAC personnel to modify access rights to a resource

R7-61 Removal of User Access Rights

NPAC SMS shall provide a mechanism to remove access rights to all software resources for a user or a group of users

RR7-l Single GUI Login Session

NPAC SMS shall provide Service Provider Personnel, via the NPAC Low-Tech Interface, and NPAC Personnel, via the NPAC Administrative Interface, support for one user id that can be configured to allow access to any and all US NPAC Regions (previously NANC 444 Req 2)

RR7-2 Region Selection - Navigation

NPAC SMS shall provide a mechanism that allows Service Provider Personnel, via the NPAC Low-Tech Interface, and NPAC Personnel, via the NPAC Administrative Interface, to select and navigate to any other NPAC region main menu screen they are configured for access without requiring additional authentication (previously NANC 444 Req 3)

RR7-3 Common Authentication Database

NPAC SMS shall use a common authentication mechanism that is available to all US Regions and Canada for Service Provider Personnel using the NPAC Low-Tech Interface, and NPAC Personnel using the NPAC Administrative Interface (previously NANC 444 Req 4)

RR7-4 Cross-Regional Session Timeout

NPAC SMS shall expire a user's cross-regional session within a tunable time period, regardless of user activity and require re-authentication when navigating to a different region for Service Provider Personnel using the NPAC Low-Tech Interface, and NPAC Personnel using the NPAC Administrative Interface (previously NANC 444 Req 5)

RR7-5 Cross-Regional Session Timeout – Tunable Parameter

NPAC SMS shall provide a Cross-Regional Session Timeout tunable parameter that specifies the maximum duration a user may continuously use a Cross-Regional GUI session (previously NANC 444 Req 6)

RR7-6 Cross-Regional Session Timeout – Tunable Modification

NPAC SMS shall allow NPAC Personnel via the NPAC Administrative Interface to update the Cross-Regional Session Timeout tunable parameter (previously NANC 444 Req 7)

RR7-7 Cross-Regional Session Timeout – Tunable Parameter Default

NPAC SMS shall default the Cross-Regional Timeout tunable parameter to 1440 minutes (24 hours) (previously NANC 444 Req 8)

NOTE: a value of zero for this tunable will turn off the Cross-Regional Session Timeout

RR7-8 Client Session Timeout Warning

NPAC SMS GUI shall provide a cross regional session timeout warning a tunable time period prior to the system expiring their GUI session due to inactivity (previously NANC 444 Req 9)

RR7-9 Client Session Timeout Warning – Tunable Parameter

NPAC SMS shall provide a Client Session Timeout Warning tunable parameter that specifies the time in minutes the user is notified before their GUI session is expired due to inactivity (previously NANC 444 Req 10)

RR7-10 Client Session Timeout Warning – Tunable Modification

NPAC SMS shall allow NPAC Personnel via the NPAC Administrative Interface to update the Client Session Timeout Warning tunable parameter (previously NANC 444 Req 11)

RR7-11 Client Session Timeout Warning – Tunable Parameter Default

NPAC SMS shall default the Client Session Timeout Warning tunable parameter to 2 (two) minutes (previously NANC 444 Req 12)

Requirements for the ability to have a Service Bureau User act on behalf of subordinate Service Providers

RR7-12 Service Bureau – List of secondary SPIDs

NPAC Low-Tech Interface shall display a list of secondary SPIDs of a primary SPID once a user of the primary SPID is logged into the NPAC Low-Tech Interface (previously NANC 444 Req 13)

RR7-13 Service Bureau – Selection of secondary SPIDs

NPAC Low-Tech Interface shall allow selecting a secondary SPID from the secondary SPID list to act on behalf of that secondary SPID (previously NANC 444 Req 14)

RR7-14 Service Bureau – Processing Data of secondary SPIDs

NPAC Low-Tech Interface shall use the selected SPID (i e , secondary SPID value) for all the NPAC administrative interface requests once the primary SPID makes the secondary SPID selection (previously NANC 444 Req 15)

NOTE: For example, pending SV query will be filtered by the selected secondary SPID not the logged in user's SPID (i e , service bureau's SPID)

RR7-15 Service Bureau – LTI Primary SPID

NPAC SMS shall allow a Low-Tech Interface-only SPID to be a primary SPID (previously NANC 444 Req 16)

7.5 Data and System Integrity

R7-63 Identify Originator of System Resources

NPAC SMS shall identify the originator of any accessible system resources

R7-64 Identify Originator of Information Received Across Communication Channels

NPAC SMS shall be able to identify the originator of any information received across communication channels

R7-65.1 Monitor System Resources

NPAC SMS NMS shall use SNMP to monitor the system resources

R7-65.2 Detect Error Conditions

NPAC SMS NMS shall use SNMP to detect error conditions

R7-65.3 Detect Communication Errors

NPAC SMS NMS shall use SNMP to detect communication errors

R7-65.4 Detect Link Outages

NPAC SMS NMS shall use SNMP to detect link outages

R7-66.1 Rule Checking on Update

NPAC SMS shall ensure proper rule checking on data update

R7-66.2 Handling of Duplicate Inputs

NPAC SMS shall handle duplicate/multiple inputs

R7-66.3 Check Return Status

NPAC SMS shall check return status

R7-66.4 Validate Inputs

NPAC SMS shall validate inputs for reasonable values

R7-66.5 Transaction Serialization

NPAC SMS shall ensure proper serialization of update transactions

R7-67 Database Integrity Checking

NPAC SMS shall include database integrity checking utilities for the NPAC SMS database

7.6 Audit

7.6.1 Audit Log Generation

R7-68.1 Security Audit Log for After the Fact Investigation

NPAC SMS shall generate a security audit log that contains information sufficient for after the fact investigation of loss or impropriety for appropriate response, including pursuit of legal remedies

R7-68.2 Security Audit Data Availability

NPAC SMS shall ensure that the security audit data is available on-line for a minimum of 90 days

R7-68.3 Security Audit Data Archived

NPAC SMS shall archive the security audit data off-line for a minimum of two years

R7-69 User Identification Retained

NPAC SMS shall ensure that the user-identification associated with any NPAC SMS request or activity is maintained, so that the initiating user can be traceable

R7-70 Protection of Security Audit Log Access

NPAC SMS shall protect the security audit log from unauthorized access

R7-71.2 NPAC Personnel Delete Security Audit Log

NPAC SMS shall ensure that only authorized NPAC personnel can archive and delete any or all of the security audit log(s) as part of the archival process

R7-72 Security Audit Control Protected

NPAC SMS shall ensure that the security audit control mechanisms are protected from unauthorized access

R7-73.1 Log Invalid User Authentication Attempts

NPAC SMS shall write a record to the security audit log for each invalid user authentication attempt

R7-73.2 Log NPAC SMS End User Logins

NPAC SMS shall write a record to the security audit log for logins of NPAC users

R7-73.3 Log NPAC Personnel Activities

NPAC SMS shall write a record to the security audit log for security-controlled activities of NPAC users

R7-73.4 Log Unauthorized Data Access

NPAC SMS shall write a record to the security audit log for unauthorized data access attempts

R7-73.5 Log Unauthorized Transaction Access

NPAC SMS shall write a record to the security audit log for unauthorized NPAC SMS transaction functionality access attempts

R7-74 No Disable of Security Auditing

NPAC SMS shall ensure that NPAC audit capability cannot be disabled

R7-75 Security Audit Record Contents

NPAC SMS shall ensure that for each recorded event, the audit log contains the following:

- Date and time of the event
- User identification including relevant connection information
- Type of event
- Name of resources accessed or function performed
- Success or failure of the event

R7-76.1 Recorded Login Attempts

NPAC SMS shall record actual or attempted logins in audit logs after an NPAC-tunable parameter threshold of consecutive login failures

7.6.2 Reporting and Intrusion Detection

R7-77.1 Exception Reports on Data Items

NPAC SMS shall provide post-collection audit analysis tools that can produce exception reports on items relating to system intrusions

R7-77.2 Exception Reports on Users

NPAC SMS shall provide post-collection audit analysis tools that can produce exception reports on users relating to system intrusions

R7-77.3 Exception Reports on Communication Failures

NPAC SMS shall provide post-collection audit analysis tools that can produce exception reports on communication failures relating to system intrusions

R7-77.4 Summary Reports on Data Items

NPAC SMS shall provide post-collection audit analysis tools that can produce summary reports on data items relating to system intrusions

R7-77.5 Summary Reports on Users

NPAC SMS shall provide post-collection audit analysis tools that can produce summary reports on users relating to system intrusions

R7-77.6 Summary Reports on Communication Failures

NPAC SMS shall provide post-collection audit analysis tools that can produce summary reports on communication failures relating to system intrusions

R7-77.7 Detailed Reports on Data Items

NPAC SMS shall provide post-collection audit analysis tools that can produce detailed reports on data items relating to system intrusions

R7-77.8 Detailed Reports on Users

NPAC SMS shall provide post-collection audit analysis tools that can produce detailed reports on users relating to system intrusions

R7-77.9 Detailed Reports on Communication Failures

NPAC SMS shall provide post-collection audit analysis tools that can produce detailed reports on communication failures relating to system intrusions

R7-78 Review User Actions

NPAC SMS shall provide a capability to review a summary of the actions of any one or more users, including other NPAC users, based on individual user identity

R7-79.1 Monitor Network Address

NPAC SMS shall provide tools for the NPAC to monitor the message passing activities to and from a specific network address as they occur

R7-80.1 Real-time Security Monitor

NPAC SMS NMS shall provide a real-time mechanism to monitor the occurrence or accumulation of security auditable events Where possible, NPAC SMS shall determine and execute the least disruptive action to terminate the event

R7-80.2 Security Event Notification

NPAC SMS NMS shall notify the NPAC personnel immediately when security event thresholds are exceeded through the SNMP agent

7.7 Continuity of Service

R7-81 System Made Unavailable by Service Provider

NPAC SMS shall ensure that no service provider action, either deliberate or accidental, should cause the system to be unavailable to other users

R7-82 Detect Service Degrading Conditions

NPAC SMS shall report conditions that would degrade service below a pre-specified minimum, including high memory, CPU, network traffic, and disk space utilization

R7-83 System Recovery After Failure

NPAC SMS shall provide procedures or mechanisms to allow recovery after a system failure without a security compromise

R7-84.1 Software Backup Procedures

NPAC SMS shall have documented procedures for software backup

R7-84.2 Data Backup Procedures

NPAC SMS shall have documented procedures for data backup

R7-84.3 Software Restoration Procedures

NPAC SMS shall have documented procedures for software restoration

R7-84.4 Data Restoration Procedures

NPAC SMS shall have documented procedures for data restoration

R7-85.1 Software Version Number

NPAC SMS shall record the exact revision number of the latest software installed

R7-85.2 Software Version Number

NPAC SMS shall display for viewing the exact revision number of the latest software via a Web bulletin board, and also through the NPAC Administrative Interface and NPAC SOA Low-tech Interface upon completion of the user login sequence

7.8 Software Vendor

R7-86 Software Development Methodology

NPAC SMS shall be developed using a corporate policy governing the development of software

R7-87 Bypass of Security

NPAC SMS shall **not** support any mode of entry into NPAC SMS for maintenance, support, or operations that would violate or bypass any security procedures

R7-88 Documented Entry

NPAC SMS shall document any mode of entry into the SMS for maintenance, support, or operations

7.9 Mechanized Security Environment

7.9.1 Threats

Attacks against the NPAC SMS may be perpetrated in order to achieve any of the following:

- Denial of service to a customer by placing wrong translation information in the SMS
- Denial of service to a customer by preventing a valid message from reaching the SMS
- Disrupting a carrier's operations by having numerous spurious calls (to users who are not clients of that carrier) directed to that carrier
- Switching customers to various carriers without their consent
- Disrupting the functioning of the NPAC SMS by swamping it with spurious messages

7.9.2 Security Services

R7-89 Authentication

SOA to NPAC SMS interface and the NPAC SMS-to-Local SMS interface shall support Authentication (at association setup or XML connection)

R7-90 Data Origin Authentication

SOA to NPAC SMS interface and the NPAC SMS-to-Local SMS interface shall support data origin authentication for each incoming message

R7-91.1 Detection of Message Replay

SOA to NPAC SMS interface and the NPAC SMS-to-Local SMS interface shall support detection of replay

R7-91.2 Deletion of a Message

SOA to NPAC SMS interface and the NPAC SMS-to-Local SMS interface shall support detection of message deletion

R7-91.3 Modification of a Message

SOA to NPAC SMS interface and the NPAC SMS-to-Local SMS interface shall support detection of message modification

R7-91.4 Delay of a Message

SOA to NPAC SMS interface and the NPAC SMS-to-Local SMS interface shall support detection of message delay

R7-92 Non-repudiation of Origin

SOA to NPAC SMS interface and the NPAC SMS-to-Local SMS interface shall support non-repudiation of origin

R7-93 Access Control

SOA to NPAC SMS interface and the NPAC SMS-to-Local SMS interface shall allow only authorized parties (i e , carriers serving a given customer) to cause changes in the NPAC SMS database

7.9.3 Security Mechanisms

This section outlines the requirements to specify security mechanisms

7.9.3.1 Encryption

Note: This sub-section contains requirements that are a CMIP specific concept and apply only to the CMIP interface

R7-94.1 Public Key Crypto System (PKCS)

SOA to NPAC SMS interface and the NPAC SMS-to-Local SMS interface shall use an RSA public key crypto system (PKCS) to provide digital signatures Since there is no requirement for confidentiality service there is no need for any additional encryption algorithms

R7-94.2 Digital Signature Algorithms

DELETED

R7-95 RSA Encryption Modulus Size

SOA to NPAC SMS interface and the NPAC SMS-to-Local SMS interface shall require the size of the modulus of each key to be at least 600 bits for RSA encryption

7.9.3.2 Authentication

Note: This sub-section contains requirements that are a CMIP specific concept and apply only to the CMIP interface

R7-96 Digital Signature Algorithm

SOA to NPAC SMS interface and the NPAC SMS-to-Local SMS interface shall apply the digital signature algorithm to the fields specified below without any separators between those fields or any other additional characters

- System ID
- System type

- User ID
- Departure time
- Sequence number

R7-97 Authenticator Contents

SOA to NPAC SMS interface and the NPAC SMS-to-Local SMS interface shall provide authentication consisting of the following:

- System ID
- System type
- User ID
- Departure time
- Sequence number
- Key ID
- Key list ID
- Digital Signature

R7-98 Authenticator in Access Control Field

SOA to NPAC SMS interface and the NPAC SMS-to-Local SMS interface shall convey the authenticator in the CMIP access control field

Note: Access Control is NOT included in Heartbeat Notifications

Data Origin Authentication

R7-99.1 Subsequent Messages Contain Access Control Field

SOA to NPAC SMS interface and the NPAC SMS-to-Local SMS interface shall ensure that every subsequent CMIP message that contains the access control field carries the authenticator

R7-99.2 Separate Counter for Association Sequence Numbers

SOA to NPAC SMS interface and the NPAC SMS-to-Local SMS interface shall verify that each party maintains a separate sequence number counter for each association it uses to send messages

R7-99.3 Increment Sequence Numbers

SOA to NPAC SMS interface and the NPAC SMS-to-Local SMS interface shall verify that every time the authenticator is used the value of the sequence number will be incremented by one

7.9.3.3 Integrity and Non-repudiation

R7-100.1 Security Field

SOA to NPAC SMS interface and the NPAC SMS-to-Local SMS interface shall ensure that all the notifications defined for the number portability application contain a security field

R7-100.2 Security Field Syntax

SOA to NPAC SMS interface and the NPAC SMS-to-Local SMS interface shall ensure that the syntax of the security field used for the notification corresponds to the authenticator

R7-102 Notifications in Confirmed Mode

NPAC SMS shall ensure that all the notifications are sent in the confirmed mode (CMIP interface only)

R7-103

MISSING in RFP

7.9.3.4 Access Control

R7-104 Responsible for Access Control

NPAC SMS shall be responsible for access control on the SOA-to-NPAC SMS interface and the NPAC SMS-to-Local SMS interface

R7-105.2 Generalized Time – Valid Message Timeframe

SOA to NPAC SMS interface and the NPAC SMS-to-Local SMS interface shall ensure that external messages received have a generalized time in the access control information within the Departure Time Threshold tunable number of minutes of the NPAC SMS system clock

RR7-3 Generalized Time – Departure Time Threshold Tunable Parameter

NPAC SMS shall provide a Departure Time Threshold tunable, which is defined as the maximum number of minutes of difference between the departure time of a message from the sending system, and the receipt of that message at the receiving system

RR7-4 Generalized Time – Departure Time Threshold Tunable Parameter Default

NPAC SMS shall default the Departure Time Threshold tunable parameter to five (5) minutes

7.9.3.5 Audit Trail

R7-106 Log Contents

SOA to NPAC SMS interface and the NPAC SMS-to-Local SMS interface shall keep a log of all of the following:

- Incoming messages that result in the setup or termination of associations
- All invalid messages (invalid signature, sequence number out of order, Generalized Time out of scope, sender not authorized for the implied request)
- All incoming messages that may cause changes to the NPAC SMS database

7.9.3.6 Key Exchange

Note: This sub-section contains requirements that apply to both the CMIP interface and the XML interface , The SP-Key is applicable only for the XML interface and is in ascii format The key list is applicable only for the CMIP interface

R7-107.1 Lists of Keys

NPAC SMS shall ensure that during a security key exchange, each party provides the other with a list of keys

R7-107.2 Keys in Electronic Form

NPAC SMS shall provide the list of keys in a secure electronic form

R7-107.3 Paper copy of MD5 Hashes of the Keys

DELETED

R7-107.4 Key List Exchange

NPAC SMS shall support exchange of the list of keys remotely

R7-107.5 Remote Key List Exchange

NPAC SMS shall convey the lists via Secure FTP using encryption mechanisms

R7-108.1 Remote Reception Acknowledgment

NPAC SMS shall support the Service Providers' acknowledgment via Secure FTP using encryption mechanisms

R7-108.2 Acknowledgment Contents

NPAC SMS shall support the Service Providers' acknowledgment consisting of the MD5 hash of each one of the keys in the list

R7-108.3 Phone Confirmation

The recipient shall call the sender by phone for further confirmation and provide the sender with the MD5 hash of the whole list

R7-109.1 Periodic Paper List of Public Keys NPAC Uses

DELETED

R7-109.2 Acknowledgment of Paper List of Public Keys

DELETED

R7-110.1 List Encryption Keys

NPAC SMS shall provide each Service Provider with a numbered list of encryption keys, numbered from 1 to 1000

R7-110.3 List Encryption Keys

NPAC SMS shall ensure unique numbering of the keys

R7-111.1 New Encryption Key Can Be Chosen

NPAC SMS shall allow a new encryption key to be chosen with every message that contains a key identifier

R7-111.2 Keys Not Reused

NPAC SMS shall reject messages that use a key whose usage has stopped

R7-111.3 Compromised Keys

NPAC SMS shall allow authorized NPAC SMS personnel to initiate a new key for messages

R7-111.4 Key Change Once Per Year

NPAC SMS shall change the key used between the NPAC SMS and Service Provider after one year of usage

Note: This applies to the NPAC signing key, not the Service Provider signing key

R7-111.5 Key Size Increase Per Year

NPAC SMS shall allow NPAC SMS personnel to change key sizes for Service Providers as needed to ensure secure communications between the NPAC SMS and the Service Providers

R7-111.6 Per Service Provider Application Basis

NPAC SMS shall expect new key initiation to be requested on a per Service Provider application basis

R7-111.7 NPAC Key Change Algorithm

NPAC SMS shall, upon determination that its key list has been compromised, change its own private key

R7-111.8 Service Provider Key Marked Used/Invalid

NPAC SMS shall only mark a Service Provider key as invalid or used when the service provider changes keys

RR7-1 Load Key List

NPAC SMS shall be able to load a new key list in 15 minutes or less

RN7-1 Authenticator Contents - Individual System Clock Accuracy

NPAC SMS shall be responsible for ensuring that the system clock is accurate to within two minutes of GMT

RN7-2 Authenticator Contents - Zero Sequence Number

A sequence number equal to zero shall be required for association request and association response messages

RR7-2 Modifying User Name

DELETED

8. Audit Administration

8.1 Overview

An audit function will be necessary for troubleshooting a customer problem and also as a maintenance process to ensure data integrity across the entire LNP network Audit will be concerned with the process of comparing the NPAC view of the LNP network with one or more of the Service Provider's view of its network In the case of "on demand" audits, audits may be initiated by any Service Provider who has reason to believe a problem may exist in another Service Provider's network Such audits are executed via queries to the appropriate Service Provider's network, and corrected via downloads to those same networks Requirements pertaining to these requirements are given in Sections 8 2 through 8 6

With audits, two different scenarios are supported, one designed to "sync up" the information contained in the various Local SMS databases with the content of the NPAC SMS database, the other for the NPAC to perform random integrity checks of its own database

The local SMS will be responsible for comparing database extracts written to a Secure FTP site by the NPAC SMS with its own version of that same data Note that the Service Provider network may contain several network nodes designated for local number portability and may also choose to keep its own copy in its respective SMS In the second scenario, the NPAC SMS will select a random sample of active Subscription Versions from its own database, then compare those samples to the representation of that same data in the various Local SMS databases Requirements pertaining to periodic audits are given in Section 8 7

A8-1 Service Provider Audits Issued Immediately

NPAC SMS will process audit requests from service providers immediately

8.2 Service Provider User Functionality

R8-1 Service Providers Audit Request - Single TN

DELETED

R8-2.1 Service Providers Audit Request - Range of TNs

DELETED

RR8-19 Service Provider Audit Request – Required Information

NPAC SMS shall require the following information as part of an audit request over the SOA-to-NPAC SMS interface or Service Provider Personnel:

- Unique Audit Name
- TN (either a single or range of TNs)

R8-3 Service Providers Specify Audit Scope

NPAC SMS shall allow Service Providers to specify the scope of an audit by specifying one or more of the following parameters:

- Specific Service provider network **or** ALL Service Providers networks
- Specify an activation Date/Time stamp range, i e , only audit records activated between a specific time window
- Full audit for all LNP attributes **or** a partial audit where the Service Provider can specify one or more of the following LNP attributes:
    * LIDB data
    * CLASS data
    * LRN data
    * CNAM data
    * ISVM data
    * WSMSC data (only Service Provider Local SMSs that support this attribute will be audited on this attribute)

  Default: Full audit

Note: Partial audits apply only to the CMIP interface Full audits apply to both the CMIP interface and the XML XML interface

8.3 NPAC User Functionality

R8-4 NPAC Personnel Audit Request - Single TN

DELETED

R8-5.1 NPAC Personnel Audit Request - Range of TNs

DELETED

RR8-20 NPAC Personnel Audit Request – Required Information

NPAC SMS shall require the following information as part of an audit request from NPAC Personnel:

- Unique Audit Name
- TN (either a single or a range of TNs)

R8-6.1 Specify an Immediate Audit Request

NPAC SMS shall provide NPAC personnel and users of the SOA-to-NPAC SMS interface the capability to issue an audit request to be executed immediately

R8-9 NPAC Personnel Specify Audit Scope

NPAC SMS shall allow NPAC SMS Personnel to specify the scope of an audit by specifying one or more of the following parameters:

- Specific Service Provider network **or** ALL Service Providers networks
- Specify an activation Date/Time stamp range, i e , only audit records activated between a specific time window
- Full audit for all LNP attributes **or** a partial audit where the Service Provider can specify one or more of the following LNP attributes:
    * LIDB data
    * CLASS data
    * LRN data
    * CNAM data
    * ISVM data

* WSMSC data (only Service Provider Local SMSs that support this attribute will be audited on this attribute)

Default: Full audit

R8-10 NPAC Personnel Status of Audit Request

NPAC SMS shall allow NPAC personnel to obtain the final results of an audit request

R8-11 Audit Progress Indicators

NPAC SMS shall indicate the progress of an audit as the percentage of records audited, when supplying the status of an audit request

R8-12 NPAC Personnel Cancel of an Audit

NPAC SMS shall allow NPAC personnel to cancel an audit request

8.4 System Functionality

R8-15.1 NPAC Personnel View of ALL Audit Requests

NPAC SMS shall allow NPAC Personnel to view ALL audit requests including requests issued by the Service Providers

R8-15.2 Mechanized SOA Interface Obtain Audit Requests

NPAC SMS shall allow the mechanized SOA interface to obtain all audit requests issued from that particular mechanized SOA interface

R8-15.3 Send Audit Results to Originating SOA

NPAC SMS shall send audit results to the originating SOA

R8-16.1 Flow of Audit Execution

NPAC SMS shall send the query resulting from the audit request to the local Service Providers' networks that are accepting Subscription Version data downloads for the given NPA-NXX via the NPAC SMS-to-Local SMS interface, as described in the NPAC SMS Interoperable Interface Specification

R8-17.1 Compare NPAC SMS Subscription Versions to Service Provider Subscription Versions

NPAC SMS shall conduct a comparison of the Subscription Versions belonging to the Service Provider to its own Subscription Versions

R8-17.2 Add TNs to Service Provider Subscription Versions

NPAC SMS shall, following the comparison of its own Subscription Versions to the Service Provider's Subscription Versions, broadcast to the Service Provider an update for any TN that was NOT found in the Service Provider's Subscription Version database, where the status of the Subscription Version contains a status of Active or Partial Failure

R8-17.3 Modify Erroneous TNs

NPAC SMS shall, following the comparison of its own Subscription Versions to the Service Provider's Subscription Versions, modify any TN found to be in error

R8-17.4 Delete Discrepant TNs from Service Provider Subscription Versions

NPAC SMS shall, following the comparison of its own Subscription Versions to the Service Provider's Subscription Versions, delete any discrepant TNs from the Service Provider's Subscription Version database

R8-19 Record Audit Results in an Audit Log

NPAC SMS shall record all audit results in an audit log

RR8-4 Skip Subscription Versions with a Status of Sending

NPAC SMS shall, when processing the audit query results from a Local SMS, NOT perform comparisons or attempt to correct any Subscription Version within the requested range, which has a status of sending

RR8-5 Report No Discrepancies Found in Audit Results for Skipped Subscription Versions

NPAC SMS shall consider a skipped Subscription Version as non-discrepant, and report no discrepancies found in the audit results

RR8-21 Audit for Support of SV Type

NPAC SMS shall audit the SV Type attribute as part of a full audit scope, only when a Service Provider's LSMS supports SV Type (previously NANC 399, Req 17)

RR8-22 Audit for Support of Alternative SPID

NPAC SMS shall audit the Alternative SPID attribute as part of a full audit scope, only when a Service Provider's LSMS supports Alternative SPID (previously NANC 399, Req 18)

RR8-26 Audit for Support of Last Alternative SPID

NPAC SMS shall audit the Last Alternative SPID attribute as part of a full audit scope, only when a Service Provider's LSMS supports Last Alternative SPID (previously NANC 438, Req 9)

RR8-27 Audit for Support of Voice URI

NPAC SMS shall audit the Voice URI attribute as part of a full audit scope, only when a Service Provider's LSMS supports Voice URI (previously NANC 429, Req 9)

RR8-28 Audit for Support of MMS URI

NPAC SMS shall audit the MMS URI attribute as part of a full audit scope, only when a Service Provider's LSMS supports MMS URI (previously NANC 430, Req 9)

RR8-29 Audit for Support of SMS URI

NPAC SMS shall audit the SMS URI attribute as part of a full audit scope, only when a Service Provider's LSMS supports SMS URI (previously NANC 435, Req 9)

RR8-37 XML Audits – Delegation

DELETED

8.5 Audit Report Management

R8-20 Service Providers Audit Retrieval

NPAC SMS shall allow NPAC personnel and Service Provider personnel to retrieve an audit report for a specific audit request by specifying the unique audit name

R8-21.1 Generate an Audit Report

NPAC SMS shall be capable of generating an audit report for each audit request that has been requested

R8-21.2 Audit Report Contents

NPAC SMS shall generate an audit report containing the following information:

- Audit name
- Audit request parameters which identified the scope of the audit
- Date and Time of Audit
- Progress indication
- Service Provider network which contains database conflict

A difference indicator which indicates one of the following:

- Mismatch between the NPAC SMS and local SMS
- Record missing in local SMS
- An audit failure
- No discrepancies found

R8-22 NPAC Personnel Generate and View an Audit Report

NPAC SMS shall allow NPAC and Service Provider personnel to generate and view an audit report on-line

R8-23.1 NPAC Personnel View an In-progress Audit Report

NPAC SMS shall allow NPAC personnel to view an audit report while the audit is in progress so the current audit results can be viewed on-line up to this point

R8-23.2 Service Providers View Results of Audits They Have Requested

NPAC SMS shall ensure that Service Providers can only view the results of those audits which they have requested

R8-25 NPAC Personnel Specify Time Audit Results Retained

NPAC SMS shall allow NPAC personnel to specify the length of time audit results will be retained in the audit log

8.6 Additional Requirements

RX8-1 Valid Audit Statuses

NPAC SMS shall support the following valid audit statuses:

- In-progress
- Canceled
- Complete

8.7 Database Integrity Sampling

RR8-1 Random Sampling of Active Subscription Versions

NPAC SMS shall select a random sample of active Subscription Versions to query over the NPAC SMS-to-Local SMS interface to monitor NPAC SMS data integrity

RR8-2.1 Data Integrity Sample Size - Tunable Parameter

NPAC SMS shall provide a Data Integrity Sample Size tunable parameter which is defined as the number of active Subscription Versions in the sample to monitor NPAC SMS data integrity

RR8-2.2 Data Integrity Sample Size - Tunable Parameter Modification

NPAC SMS shall allow the NPAC SMS Administrator to modify the Data Integrity Sample Size tunable parameter

RR8-2.3 Data Integrity Sample Size - Tunable Parameter Default

NPAC SMS shall default the Data Integrity Sample Size tunable parameter to 1000

RR8-3.1 Data Integrity Frequency - Tunable Parameter

NPAC SMS shall provide a Data Integrity Frequency tunable parameter which is defined as the frequency in days that the data integrity sampling is performed

RR8-3.2 Data Integrity Frequency - Tunable Parameter Modification

NPAC SMS shall allow the NPAC SMS Administrator to modify the Data Integrity Frequency tunable parameter

RR8-3.3 Data Integrity Frequency - Tunable Parameter Default

NPAC SMS shall default the Data Integrity Frequency tunable parameter to seven days The allowable range is between one and ninety (1-90) days

8.8 Audit Processing in a Number Pool Environment

The Audit processing that is described in this section deals with all Subscription Versions in a Number Pooling environment, whether ported, pooled, or pooled ported numbers

RR8-6 Audit Processing for All Subscription Versions in a Number Pooling Environment

NPAC SMS shall process an audit request of an Active-Like **Subscription Version(s),** by performing the following steps: (Previously A-2)

- Validate that the audit request is valid (existing FRS functionality)
- Validate that the Block associated with the TN contained in the Subscription Version(s), exists in the NPAC SMS
- Send queries of Block(s) **AND** TN Range or TN Range with Activation Timestamp, to Local SMSs that are accepting downloads for the given NPA-NXX
- Process Local SMS responses for the Block(s) by doing a comparison If a discrepancy exists, the NPAC SMS data is considered "correct", and a correction should be sent to the Local SMS
- Process Local SMS responses for Subscription Versions, as follows:
  - LSPP and LISP – Use existing audit functionality
  - POOL – "No Data" is correct response, SVs for other LNP Types need to be deleted
- Send audit results and notification of discrepancies, back to requesting SOA, only for the TN Range that was requested, even if other TNs were affected because of a Local SMS The existing notification report will be unchanged, and will not contain block information In cases where a Local SMS erroneously contained a Number Pool Block, the NPAC SMS shall send a Number Pool Block delete to the Local SMS, but shall not report any discrepancy back to the requesting SOA for this Local SMS if this was the only discrepancy
- Suppress status change and attribute change notifications, for Subscription Versions, to the Block Holder SOA
- Send status change and attribute change notifications, for Blocks, to the Block Holder SOA when the SOA Origination is TRUE, and only when an audit correction causes the status and/or Failed SP List to be updated to different values

RR8-7 Audit Discrepancy and Results Notifications for Pooled Number Subscription Versions to Requesting SOA

NPAC SMS shall, for audits of Subscription Versions with LNP Type of POOL, send notifications of discrepancies found and audit results to the requesting SOA (Previously A-10)

RR8-8 Audit Discrepancy and Results Notifications for Pooled Number Subscription Versions for Audited TNs

NPAC SMS shall, for audits of Subscription Versions with LNP Type of POOL, only send back notifications to the requesting SOA, of the audited TNs, even if other TNs were modified (Previously A-15)

RR8-9 Audit Status Attribute Value Change Notification Send for Pooled Number Blocks

NPAC SMS shall send status change notifications, for Blocks, to the Block Holder SOA when the SOA Origination is TRUE, only when an audit correction causes the status and/or Failed SP List to be updated to different values (Previously A-35)

Note: Therefore, if an audit causes a correction to be sent to a Service Provider, and the status goes from Partial Failure-to-Sending-to-Partial Failure, nothing is sent to the Block Holder SOA; however, if an audit causes a correction to be sent to a Service Provider, and the status goes from Partial Failure-to-Sending-to-Active, a notification is sent to the Block Holder SOA Likewise, if a Failed SP List gets updated, a notification is sent to the Block Holder SOA

RR8-10 Audit Attribute Value Change Notification Send for Pooled Number Blocks

NPAC SMS shall send an attribute change notifications, for Blocks, to the Block Holder SOA when the SOA Origination is TRUE, only when an audit correction causes the status and/or Failed SP List to be updated to different values (Previously A-36)

Note: Therefore, if an audit causes a correction to be sent to a Service Provider, and the status goes from Partial Failure-to-Sending-to-Partial Failure, nothing is sent to the Block Holder SOA; however, if an audit causes a correction to be sent to a Service Provider, and the status goes from Partial Failure-to-Sending-to-Active, a notification is sent to the Block Holder SOA Likewise, if a Failed SP List gets updated, a notification is sent to the Block Holder SOA

RR8-11 Audit for Pooled Numbers and Block to Local SMS

NPAC SMS shall send a query for Subscription Version(s), resulting from the TN Range or TN Range with Activation Timestamp audit request for Subscription Version(s) with LNP Type of POOL, and a query for the corresponding Block of the Subscription Version(s) with LNP Type of POOL, to a Local SMS that is accepting Block and Subscription Version data download for the given NPA-NXX via the NPAC SMS-to-Local SMS Interface (Previously A-40)

RR8-12 Audit Response – Ignore missing SVs for Pooled Ports at Local SMS

NPAC SMS shall consider a query response of No Data, as a valid response from a Local SMS, for a Subscription Version with LNP Type of POOL, and shall not include this as a discrepancy for the Subscription Version (Previously A-50)

RR8-13 Audit Response – Delete erroneous SVs for Pooled Ports at Local SMS

NPAC SMS shall consider a query response, which contains a Subscription Version, as a discrepancy from a Local SMS, for a Subscription Version with LNP Type of POOL, by sending a Subscription Version Delete message for the Subscription Version (Previously A-60)

RR8-14 Audit Response – Compare NPAC SMS Block to Service Provider Block at Local SMS

NPAC SMS shall conduct a comparison of the Block sent back in the audit response by the Local SMS, to the Block stored in the NPAC SMS (Previously A-80)

RR8-15 Audit Response – Block Missing from Local SMS

NPAC SMS shall consider a query response of No Data related to a Block, for a Block that exists in the NPAC SMS, other than a status of Old, as a discrepant response from a Local SMS, and shall send a Block Create/Activate message (Previously A-90)

RR8-16 Audit Response – Block Discrepant at Local SMS

NPAC SMS shall consider a query response with mis-matched data for a Block, as a discrepant response from a Local SMS, and shall send a Block Modify message (Previously A-100)

RR8-17 Audit Response – Extra Block at Local SMS

NPAC SMS shall consider a query response of an existing Block, for a Block that has been de-pooled, as a discrepant response from a Local SMS, when the latest version of the Block on the NPAC SMS contains a status of old, and shall send a Block Delete message (Previously A-110)

RR8-18 Audit Processing – Skipping In-Progress Blocks

NPAC SMS shall skip the audit of a Block with a status of Sending, such that no discrepancies will be found for the Block (Previously A-120)

8.9 Audit Processing in a Pseudo-LRN Environment

The Audit processing that is described in this section deals with all Subscription Versions and Number Pool Blocks in a pseudo-LRN environment Audit processing in a pseudo-LRN environment will use the information in the Service Provider's profile (NPAC Customer LSMS Pseudo-LRN Indicator) to determine whether to send a query for a TN/TN Range and/or Number Pool Block

RR8-30 Audit of Pseudo-LRN Subscription Version – Query all LSMSs

NPAC SMS shall send an audit query for a pseudo-LRN Subscription Version to all Local SMSs regardless of support indicators or Accepted SPID List entries (previously NANC 442, Req 79)

RR8-31 Audit of Pseudo-LRN Subscription Version – Roll-Up Query Results only for Supporting LSMS

NPAC SMS shall audit and roll-up query results for a pseudo-LRN Subscription Version, only when a Service Provider's LSMS supports pseudo-LRN Subscription Versions, and the SPID to be audited is contained in the Service Provider's Pseudo-LRN Accepted SPID List (previously NANC 442, Req 55)

RR8-32 Audit of Pseudo-LRN Number Pool Block – Query all LSMSs

NPAC SMS shall send an audit query for a pseudo-LRN Number Pool Block to all Local SMSs regardless of support indicators or Accepted SPID List entries (previously NANC 442, Req 80)

RR8-33 Audit of Pseudo-LRN Number Pool Block – Roll-Up Query Results only for Supporting LSMS

NPAC SMS shall audit and roll-up query results for a pseudo-LRN Number Pool Block, only when a Service Provider's LSMS supports pseudo-LRN Subscription Versions, and the SPID to be audited is contained in the Service Provider's Pseudo-LRN Accepted SPID List (previously NANC 442, Req 56)

RR8-34 Audit of Pseudo-LRN Subscription Version – Send Audit Results to Originating SOA

NPAC SMS shall send audit results of a pseudo-LRN Subscription Version to the originating SOA, regardless of the SOA's Pseudo-LRN Indicator value (previously NANC 442, Req 57)

RR8-35 Audit of Pseudo-LRN Number Pool Block – Send Audit Results to Originating SOA

NPAC SMS shall send audit results of a pseudo-LRN Number Pool Block to the originating SOA, regardless of the SOA's Pseudo-LRN Indicator value (previously NANC 442, Req 58)

RR8-36 Add/Modify/Delete TNs to Service Provider Pseudo-LRN Subscription Versions

NPAC SMS shall, following the comparison of its own pseudo-LRN Subscription Versions to the Service Provider's pseudo-LRN Subscription Versions, broadcast to the Service Provider the latest update (add/modify/delete) for any TN that was not the same in the Service Provider's Subscription Version database (previously NANC 442, Req 59)

Note: In the case, where more than one activity occurred on the TN (e g , disconnect active-LRN SV, followed by activate of pseudo-LRN SV), only the latest activity (that is supported) is sent If the Service Provider supports pseudo-LRN, the latest supported activity is the activate If the Service Provider does not support pseudo-LRN, the latest supported activity is the disconnect

9. Reports

9.1 Overview

The NPAC SMS must support scheduled and ad hoc report generation for selectable reports The report generation service shall create output report files according to specified format definitions, and distribute reports to output devices as requested A report distribution service is used to distribute report files to selected output devices Authorized NPAC personnel can request reports from active database, history logs, error logs, traffic measurements, usage measurements, and performance reports

9.2 User Functionality

R9-1 NPAC Personnel Report Selection

NPAC SMS shall allow NPAC personnel using the NPAC Administrative Interface to select the type of report required

R9-2 NPAC Personnel Selection of Output Destination

NPAC SMS shall allow NPAC personnel using the NPAC Administrative Interface to select the predefined report output destination Destinations are printer, file system, email, display or FAX

R9-3 NPAC Personnel Re-print of Reports

NPAC SMS shall allow NPAC personnel using the NPAC Administrative Interface to re-print reports from previously saved report outputs

R9-4 NPAC Personnel Create Customized Reports

NPAC SMS shall allow NPAC personnel to create customized reports through an ad-hoc facility

R9-5 NPAC Personnel Define Scope and Filtering

NPAC SMS shall allow NPAC personnel to define scope and filtering for items to be included in the customized reports

R9-6 Service Providers Receive Reports on Their Activities

NPAC SMS shall allow Service Provider personnel to receive reports on information related to their activities

RX9-1 Service and Network Data Reports

NPAC SMS shall support the following service and network data reports for NPAC personnel using the NPAC Administrative Interface and Service Provider personnel using the NPAC SOA Low-tech Interface:

1 NPAC Service Tunable Parameters Report
2 List of Service Provider's LRNs

3 Open NPA-NXXs List

RX9-2 Service Provider Reports

NPAC SMS shall support the following Service Provider reports for NPAC personnel using the NPAC Administrative Interface and Service Provider personnel using the NPAC SOA Low-tech Interface:

1 Service Provider Profile (Service Provider's own data only)
2 Service Provider's Subscription List by Status (Service Provider's own data only)

RX9-3 Subscription Data Reports

NPAC SMS shall support the following subscription data reports for NPAC personnel using the NPAC Administrative Interface and Service Provider personnel using the NPAC SOA Low-tech Interface:

1 Subscriptions Listed by Status
2 Subscriptions Listed by Service Provider by Status

RX9-4 System Reports

NPAC SMS shall support the following system reports for NPAC system administration personnel using the NPAC Administrative Interface:

1 Overall CPU System Utilization
2 Storage Utilization
3 NPAC SMS Application Performance (SOA/LSMS Downloads per Second)
4 NPAC SMS Application Performance (SOA/LSMS Subscription Activation Time)
5 NPAC SMS-SOA Link Utilization
6 NPAC SMS-LSMS Link Utilization
7 NPAC SMS Application Performance (SOA/LSMS Response Time)
8 NPAC SMS Application Performance (Interface Transaction Rate)
9 NPAC SMS Application Performance (Provider SMS Database Sampling)

RX9-5 Security Reports

NPAC SMS shall support the following security reports for NPAC security administration personnel using the NPAC Administrative Interface:

1 Access Privileges Matrix
2 Authorized Users List
3 Security Log
4 Invalid Access Attempts
5 Encryption Keys List

RX9-6 Log File Reports

NPAC SMS shall support the following log file reports for NPAC personnel using the NPAC Administrative Interface:

1 History Report
2 Error Report
3 Service Provider Notification Report

4 Subscription Transaction Report
5 Service Provider Administration Report
6 Subscription Administration Report
7 Cause Code Usage Log Report
8 Resend Excluded Service Provider Report

RX9-7 Audit Reports

NPAC SMS shall support an Audit Results Report

RX9-8 Regularly Scheduled Reports

NPAC SMS shall support the generation of regularly scheduled standard or ad hoc reports, to be provided at the request of a Service Provider

RR9-1 Data Integrity Report – Database Sample Report

NPAC SMS shall generate an NPAC SMS data integrity report

RR9-39 Pseudo-LRN Data in Reports – Service Provider Personnel

NPAC SMS shall allow Service Provider Personnel to view pseudo-LRN data in reports if the Service Provider Low-Tech Interface Pseudo-LRN Support Flag Indicator is TRUE (previously NANC 442, Req 81)

RR9-40 Pseudo-LRN Data in Reports – NPAC Personnel

NPAC SMS shall allow NPAC Personnel to view all pseudo-LRN data in reports (previously NANC 442, Req 82)

9.3 System Functionality

R9-9 Verification of User Privileges

NPAC SMS shall verify whether the user requesting the report has the proper viewing privileges for the selected data

R9-10 Support of On-line File Transfer

NPAC SMS shall support on-line file transfer capabilities to transfer report files

R9-11 Transaction History Log

NPAC SMS shall maintain a History Log to keep track of transactions processed

R9-12.1 Error Log - Transaction Errors

NPAC SMS shall maintain an Error Log to keep track of transaction errors

R9-12.2 Error Log - Transmission Errors

NPAC SMS shall maintain an Error Log to keep track of transmission errors

9.3.1 National Number Pooling Reports

RR9-7 Pooled Number Reports – OpGUI Report Generation

NPAC SMS shall support reports that list pooling information for NPAC personnel using the NPAC Administrative Interface and Service Provider personnel using the NPAC SOA Low-tech Interface (Previously RR9-7 of Appendix F: Midwest Region Number Pooling)

RR9-2 Pooled Number Reports – Query functions

NPAC SMS shall support pooled number reports that allow queries on any combination of SPID, and TN Range, where the NPAC SMS returns all TNs that meet the selection criteria (Previously R-10)

RR9-8 Pooled Number Reports – Block Holder Default Routing Report

NPAC SMS shall support a report that list the number pool range, the block holder, and the block holder default routing information for NPAC personnel using the NPAC Administrative Interface and Service Provider personnel using the NPAC SOA Low-tech Interface (Previously RR9-8 of Appendix F: Midwest Region Number Pooling)

RR9-3 Pooled Number Reports – Block Holder Default Routing Report Data Elements

NPAC SMS shall support a report that lists the number pool range, the block holder, and the block holder default routing information, that contains the Block Holder ID, Service Provider Name, and the following data elements: (Previously R-25)

Block ID (primary sort)
NPA-NXX-X (secondary sort)
Effective Date
LRN
DPC (CLASS, CNAM, ISVM, LIDB and if supported WSMSC)
SSN (CLASS, CNAM, ISVM, LIDB and if supported WSMSC)

RR9-4 Pooled Number Reports – Block Holder Default Routing Report Page Break

NPAC SMS shall page break the report listed in RR9-3, for every change in new Block Holder ID (Previously R-26)

RR9-9 Pooled Number Reports – Active-Like TNs in a NPA-NXX-X Report

NPAC SMS shall support a report that list all Active-Like numbers in a 1K block (NPA-NXX-X) for a block holder, for NPAC personnel using the NPAC Administrative Interface and Service Provider personnel using the NPAC SOA Low-tech Interface (Previously R-30)

RR9-10 Pooled Number Reports – Active-Like TNs in a NPA-NXX-X Report Data Elements

NPAC SMS shall support a report that lists all Active-Like numbers in a 1K Block for a block holder, where the status is active/partial failure/old with a Failed SP List/disconnect pending, that contains the following data elements: (Previously R-40)

TN (primary sort)
LNP Type
Activation Start Time Stamp
SP Name
Status

RR9-11 Pooled Number Reports – Pending-Like No-Active and Pending-Like Port-to-Original Subscription Versions Report

NPAC SMS shall support a report, used for NPA-NXX-X and Block Creation, that contains a list of all numbers in a 1K Block, in cases where the Code Holder SPID and the Block Holder SPID are NOT the same value, that currently have a Subscription Version with a status of pending/conflict/cancel-pending/failure, and where no active Subscription Version exists, or have a Subscription Version with a status of pending/conflict/cancel-pending/failure, and where the Subscription Version is a Port-to-Original port, for NPAC personnel using the NPAC Administrative Interface (Previously R-70)

RR9-12 Pooled Number Reports – Pending-Like No-Active and Pending-Like Port-to-Original Subscription Versions Report Data Elements

NPAC SMS shall support a report, used for NPA-NXX-X and Block Creation, that contains a list of all numbers in a 1K Block, in cases where the Code Holder SPID and the Block Holder SPID are NOT the same value, that currently have a Subscription Version with a status of pending/conflict/cancel-pending/failure, and where no active Subscription Version exists, or have a Subscription Version with a status of pending/conflict/cancel-pending/failure, and where the Subscription Version is a Port-to-Original port, that contains the following data elements: (Previously R-80)

- TN
- Old Service Provider SPID
- New Service Provider SPID
- Due Date
- Status

RR9-13 Pooled Number Reports – Pending-Like No-Active and Pending-Like Port-to-Original Subscription Versions Report Sort Priority

NPAC SMS shall sort the report listed in RR9-12, in the following order: (Previously R-81)

- New Service Provider SPID (primary sort)
- TN (secondary sort)

RR9-14 Pooled Number Reports – Pending-Like No-Active and Pending-Like Port-to-Original Subscription Versions Report Page Break

NPAC SMS shall page break the report listed in RR9-12, for every change in SPID (Previously R-82)

RR9-15 Pooled Number Reports – Pending-Like With Active POOL Subscription Versions Report

NPAC SMS shall support a report, used for de-pooling, that contains a list of all numbers in a 1K Block, that currently have a Subscription Version with a status of pending/conflict/cancel-pending/failure, and where the currently active Subscription Version is LNP Type of POOL, for NPAC personnel using the NPAC Administrative Interface (Previously R-130)

RR9-16 Pooled Number Reports – Pending-Like With Active POOL Subscription Versions Report Data Elements

NPAC SMS shall support a report, used for de-pooling, that contains a list of all numbers in a 1K Block, that currently have a Subscription Version with a status of pending/conflict/cancel-pending/failure, and where the currently active Subscription Version is LNP Type of POOL, that contains the following data elements: (Previously R-140)

TN
Old Service Provider SPID
New Service Provider SPID
Due Date
Status

RR9-17 Pooled Number Reports – Pending-Like With Active POOL Subscription Versions Report Sort Priority

NPAC SMS shall sort the report listed in RR9-16, in the following order: (Previously R-141)

New Service Provider SPID (primary sort)
TN (secondary sort)

RR9-18 Pooled Number Reports – Pending-Like With Active POOL Subscription Versions Report Page Break

NPAC SMS shall page break the report listed in RR9-16, for every change in new SPID (Previously R-142)

9.3.2 Cause Code Reports

RR9-19 Logging Cause code usage by SPID Reporting

NPAC SMS shall log the following information when an Old Service Provider places a Subscription Version into conflict: date, time, New SPID, Old SPID, cause code value (previously NANC 375, Req 4)

RR9-20 Cause Code Usage Log Report via OpGUI

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to generate the Cause Code Usage Log Report on cause code usage log data for conflict situations (previously NANC 375, Req 5)

RR9-21 Cause Code Usage Log Report Monthly Generation

NPAC SMS shall produce a monthly Cause Code Usage Log Report on cause code usage log data for conflict situations (previously NANC 375, Req 6)

RR9-22 Cause Code Usage Log Report Sort Criteria

NPAC SMS shall separate out the Cause Code Usage Log Report into two sections when generating the Cause Code Usage Log Report on cause code usage log data for conflict situations The first section will use sort criteria of Old SPID (primary) and New SPID (secondary), the second section will reverse the order and use sort criteria of New SPID (primary) and Old SPID (secondary) (previously NANC 375, Req 7)

RR9-23 Cause Code Usage Log Report Selection Criteria

NPAC SMS shall use selection criteria of month and year when generating the Cause Code Usage Log Report on cause code usage log data for conflict situations (previously NANC 375, Req 8)

RR9-24 Cause Code Usage Log Report Display

NPAC SMS shall display the Cause Code Usage Log Report data with headers as specified in the example below A page break will separate out every change of SPID that is in the primary sort (previously NANC 375, Req 9)

9.3.3 Resend Excluded Service Provider Report

RR9-25 Subscription Version Failed SP List – Excluded Service Provider Log Data Availability for the Excluded Service Provider Report

NPAC SMS shall allow the Excluded Service Provider log data to be available for the Excluded Service Provider Report (previously NANC 227/254, Req 4)

RR9-26 Subscription Version Failed SP List – Resend Excluded Service Provider Report by Current SPID via OpGUI

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to generate the Resend Excluded Service Provider Report by Current SPID on Excluded Service Provider log data (previously NANC 227/254, Req 5)

RR9-27 Subscription Version Failed SP List – Resend Excluded Service Provider Report by Current SPID Request

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to specify time range and current SPID option (of either an individual SPID or all SPIDs) when generating the Resend Excluded Service Provider Report by Current SPID on Excluded Service Provider log data (previously NANC 227/254, Req 6)

RR9-28 Subscription Version Failed SP List – Resend Excluded Service Provider Report by Current SPID Request Sort Criteria

NPAC SMS shall use the following sort order when generating the Resend Excluded Service Provider Report by Current SPID on Excluded Service Provider log data:

1 current SPID (ascending)

2 TN (ascending)

3 date/time (earliest date/time to latest date/time)

4 excluded SPID (ascending)

5 SVID (ascending)

(previously NANC 227/254, Req 7)

RR9-29 Subscription Version Failed SP List –Resend Excluded Service Provider Report by Excluded SPID via OpGUI

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to generate the Resend Excluded Service Provider Report by Excluded SPID on Excluded Service Provider log data (previously NANC 227/254, Req 8)

RR9-30 Subscription Version Failed SP List – Resend Excluded Service Provider Report by Excluded SPID Request

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to specify time range and excluded SPID option (of either an individual SPID or all SPIDs) when generating the Resend Excluded Service Provider Report by Excluded SPID on Excluded Service Provider log data (previously NANC 227/254, Req 9)

RR9-31 Subscription Version Failed SP List –Resend Excluded Service Provider Report by Excluded SPID Request Sort Criteria

NPAC SMS shall use the following sort order when generating the Excluded Service Provider Report on Excluded Service Provider log data:

1 excluded SPID (ascending)

2 TN/NPA-NXX-X (ascending)

3 date/time (earliest date/time to latest date/time)

4 currentSPID/Blockholder SPID (ascending)

5 SVID/Number Pool Block -ID (ascending)

(previously NANC 227/254, Req 10)

RR9-32 Number Pool Block Failed SP List – Excluded Service Provider Log Data Availability for the Excluded Service Provider Report

NPAC SMS shall allow the Excluded Service Provider log data to be available for the Excluded Service Provider Report (previously NANC 300, Req 4)

RR9-33 Number Pool Block Failed SP List –Resend Excluded Service Provider Report by Current SPID/Blockholder SPID via OpGUI

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to generate the Resend Excluded Service Provider Report by Current SPID/Blockholder SPID on Excluded Service Provider log data (previously NANC 300, Req 5)

RR9-34 Number Pool Block Failed SP List – Resend Excluded Service Provider Report Request by Current SPID/Blockholder SPID

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to specify time range and Current SPID/Blockholder SPID option (of either an individual SPID or all SPIDs in the failed SP list) when generating the Resend Excluded Service Provider Report by Current SPID/Blockholder SPID on Excluded Service Provider log data (previously NANC 300, Req 6)

RR9-35 Number Pool Block Failed SP List – Resend Excluded Service Provider Report by Current SPID/Blockholder SPID Request Sort Criteria

NPAC SMS shall use the following sort order when generating the Resend Excluded Service Provider Report by Current SPID/Blockholder SPID on Excluded Service Provider log data:

1 Current SPID/Blockholder SPID (ascending)

2 TN/NPA-NXX-X (ascending)

3 date/time (earliest date/time to latest date/time)

4 excluded SPID (ascending)

5 SVID/Number Pool Block -ID (ascending)

(previously NANC 300, Req 7)

RR9-36 Number Pool Block Failed SP List –Resend Excluded Service Provider Report by Excluded SPID via OpGUI

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to generate the Resend Excluded Service Provider Report by Excluded SPID on Excluded Service Provider log data (previously NANC 300, Req 8)

RR9-37 Number Pool Block Failed SP List – Resend Excluded Service Provider Report by Excluded SPID Request

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to specify time range and excluded SPID option (of either an individual SPID or all SPIDs) when generating the Resend Excluded Service Provider Report by Excluded SPID on Excluded Service Provider log data (previously NANC 300, Req 9)

RR9-38 Number Pool Block Failed SP List –Resend Excluded Service Provider Report by Excluded SPID Request Sort Criteria

NPAC SMS shall use the following sort order when generating the Excluded Service Provider Report on Excluded Service Provider log data:

1 excluded SPID (ascending)

2 TN/NPA-NXX-X (ascending)

3 date/time (earliest date/time to latest date/time)

4 Current SPID/Blockholder SPID (ascending)

5 SVID/Number Pool Block -ID (ascending)

(previously NANC 300, Req 10)

Note: The TN and SVID attributes were added to requirements 7 & 10 in this change order because of the corresponding change order (NANC 227/254) for SVs in Release 3 3

10. Performance and Reliability

This section defines the reliability, availability, performance and capacity requirements for the NPAC SMS The NPAC SMS will be designed for high reliability, including fault tolerance and data integrity features, symmetrical multi-processing capability, and allow for economical and efficient system expansion

Note that throughout this section, "downtime" refers to the unavailability of the NPAC service This is to be distinguished from cases where users can still switch to a backup machine

The following are the availability, reliability, performance and capacity requirements for the NPAC SMS system

10.1 Availability and Reliability

R10-1 System Availability

NPAC SMS shall be available 24 hours a day, 7 days a week with the exception of scheduled downtime and unscheduled downtime within the time frame defined in R10-3 and R10-5

R10-2 System Reliability

NPAC SMS shall be 99 9 percent reliable This applies to functionality and data integrity

R10-3 Unscheduled Downtime

NPAC SMS shall have unscheduled downtime per year less than or equal to 9 hours

R10-4 Mean Time to Repair for Unscheduled Downtime

NPAC SMS shall support a mean time to repair of less than or equal to 1 hour, for unscheduled downtime

R10-5 Scheduled Downtime

NPAC SMS shall have NPAC initiated, scheduled downtime of less than or equal to 24 hours per year

AR10-1 Scheduled Downtime

NPAC initiated downtime as defined in R10-5 does not include downtime needed for software release updates initiated by or collectively agreed to by the Service Providers

R10-6.1 Communication Link Monitoring

NPAC shall be capable of monitoring the status of all of its communication links

R10-6.2 Detecting Communication Link Failures

NPAC shall be capable of detecting and reporting all communication link failures

R10-7 Detecting Single Bit Data Transmission Errors

NPAC SMS shall be capable of detecting and correcting single bit errors during data transmission between hardware components (both internal and external)

R10-8 Continue Transaction Processing After Downtime

NPAC SMS shall complete processing of all sending transactions at the time of system failure when the NPAC SMS resumes processing

R10-9.1 Self Checking Logic

NPAC SMS shall support functional components with on board automatic self checking logic for immediate fault locating

R10-9.2 Continuous Hardware Checking

NPAC SMS shall support continuous hardware checking without any performance penalty or service degradation

R10-9.3 Duplexing of Hardware

NPAC SMS shall support duplexing of all major hardware components for continuous operation in the event of a system hardware failure

R10-9.4 Transparent Hardware Fault Tolerance

NPAC SMS shall support hardware fault tolerance that is transparent to the Service Providers

R10-10.1 Service Provider Notification of System Unavailability

NPAC SMS shall notify Service Providers of the system unavailability via both the NPAC SMS-to-Local SMS interface and the SOA-to-NPAC SMS interface if the system becomes unavailable for normal operations due to any reason, including both scheduled and unscheduled maintenance

R10-10.2 System Availability Notification Method

NPAC SMS shall notify Service Providers via their contact numbers if electronic communication is not possible

R10-10.3 System Availability Notification Contents

NPAC SMS shall include the following information in the notification:

- The reason for the downtime
- When the down time will start
- When the down time will stop
- An NPAC contact number

R10-11 Updates Highest Priority

NPAC SMS shall ensure the capability of receiving, processing and broadcasting updates will be given the highest priority during any maintenance, if resources allow only partial functionality

R10-12.1 Tolerance to Communication Link Outages

NPAC SMS shall provide tolerance to communication link outages and offer alternate routing for such outages

R10-12.2 Alternate routing

NPAC SMS shall offer alternate routing during communication link outages

R10-13.1 Switch to Backup or Disaster Recovery Machine

NPAC SMS shall, in cases where Service Providers have been switched to a backup or disaster recovery machine, adhere to a maximum time to repair of 4 hours for the primary machine

R10-13.2 Time to Switch Machines

NPAC SMS shall ensure that the time to switch the Service Providers to another machine and provide full functionality must not exceed the mean time to repair

R10-13.3 Total Disaster Recovery

NPAC SMS shall restore the capability of receiving, processing and broadcasting updates within 24 hours in the event of a disaster that limits the ability of both the NPAC and NPAC SMS to function

R10-13.4 Full Functionality Restored

NPAC SMS shall restore full functionality within 48 hours, in the event of a disaster that limits both the NPAC and NPAC SMS ability to function

R10-14 Reports on Reliability

NPAC shall provide reliability reports documenting the following:

- Schedule down time
- Unscheduled down time
- Mean time to repair
- System availability on a monthly basis to the Service Provider

10.2 Capacity and Performance

R10-16 Capacity

NPAC SMS will have the capacity to support a user group in the NPAC sized for the region they service

R10-18 History File Data Storage

NPAC SMS shall ensure that the data storage of the History file must keep track of all transactions made for a tunable parameter period of time (default of one year)

R10-19 Broadcast Update Response Time

NPAC SMS shall ensure that from the time an activation notice, modification or deletion request is received from a Service Provider until the time the broadcast of the update is started to all Service Provider local SMS will be less than 60 seconds

R10-20 Request/Transaction Response Time

NPAC SMS, under normal operating conditions, shall ensure that the response time from when a request or transaction is received in the system to the time an acknowledgment is returned will be less than 3 seconds for 95% of all transactions This does not include the transmission time across the interface to the Service Providers' SOA or Local SMS

R10-21 Future System Growth

NPAC SMS shall be expandable to handle future growth due to circumstances described as follows:

- Added areas of portability
- Added Service Providers

10.3 Requirements in RFP Not Given a Unique ID

RN10-2 Return to the Primary Machine SOA Notification

NPAC SMS shall send an electronic notification to the Service Provider's SOA indicating the time the NPAC will switch them back to the primary machine

RN10-3 Return to the Primary Machine Local SMS Notification

NPAC SMS shall send an electronic notification to the Service Provider's Local SMS indicating the time the NPAC will switch them back to the primary machine

RN10-4 Database Sync After Return to the Primary Machine

NPAC SMS shall sync up the database in its primary SMS with any updates sent to the backup or disaster recovery machine during the downtime

11. Billing

A11-2 Accounting Measurements Will Not Degrade the Basic System Performance

The resource accounting measurements will not cause degradation in the performance of the basic functions of the NPAC

11.1 User Functionality

R11-1 Toggling the Generation of Usage Measurements

NPAC SMS shall allow the NPAC administrator to turn on and off the recording of Service Provider usage statistics for the service elements

11.2 System Functionality

R11-2 Generating Usage Measurements for NPAC Resources

NPAC SMS shall measure and record the usage of NPAC resources on a per Service Provider basis

R11-3 Generating Usage Measurements for Allocated Connections

NPAC SMS shall generate usage measurements for allocated connections for each Service Provider

R11-4 Generating Usage Measurements for Allocated Mass Storage

NPAC SMS shall generate usage measurements for the allocated mass storage (number of records stored) for each Service Provider

R11-5 Generating Usage Measurements for the Number of Messages Processed by type

NPAC SMS shall measure the number of messages processed by type for each Service Provider

R11-6 Generating Usage Measurements for the Number of Messages Downloaded

NPAC SMS shall measure the number of messages downloaded to each Service Provider

R11-8 Generating Detailed Usage Measurement Reports

NPAC shall produce detailed NPAC usage reports for the contracting entity

R11-9 Billing Report Types

NPAC SMS shall be capable of creating the following billing reports:

- Login Session Per Service Provider
- Allocated Mass Storage

- Messages Processed by type (to include download data and data resent by request)
- Audits Requested and Processed
- Requested Report Generation
- Service Establishment (to include Service Provider establishment, user login ID addition to the NPAC SMS, and mechanized Interface Activation)

R11-10 Full Billing Report

The NPAC SMS shall be capable of creating a full billing report, with all of the report types in R11-9 included

R11-11 Billing Report Creation by NPAC Personnel

NPAC SMS shall allow NPAC personnel to create billing reports for all Service Provider usage For all report types in R11-9 and R11-10, the NPAC personnel will be able to specify whether the report is an aggregation/summary of stored data or a detailed report containing every item stored for the report type

R11-12 Billing Report Creation by Service Provider

NPAC SMS shall allow Service Providers to gather billing report data on only their NPAC SMS usage Service Providers will not be able to create reports on any other Service Provider's usage For all report types in R11-9 and R11-10, the NPAC SMS shall create an aggregation/summary of stored data for the report type

R11-13 NPAC Personnel Billing Report Destination

NPAC SMS shall allow NPAC personnel to determine the output destination of the billing report The destinations will include: on-line (on screen), printer, file, or FAX The default selection is on-line

R11-14 Service Provider Billing Report Destination

NPAC SMS shall allow Service Provider users to determine the output destination of the billing report The destinations will include: on-line (on screen) or file The default selection is on-line

R11-15 NPAC Personnel Only Can Access Billing System

The NPAC billing system shall be accessible only to NPAC personnel

Appendix A. Business Process Flow Diagrams

The latest version of the LNP Process Flows (Diagrams and Narratives) can be found on the NPAC website (www npac com)

Appendix B. Glossary

This glossary provides a comprehensive list of definitions and acronyms that apply to NPAC SMS

Active-like SVs	SVs that contain a status of active, sending, partial failure, old with a Failed SP List, or disconnect pending
Block	A range of 1000 pooled TNs within the NPA-NXX, beginning with a station of n000, and ending with n999, where n is a value between 0 and 9
Block Holder	The recipient Service Provider of a 1K Block from the code holder Also defined as the NPA-NXX-X holder in the LERG Routing Guide
Cascading Delete	A delete of an NPA-NXX-X where the NPAC sends deletes of Block data to LSMSs Once all LSMSs have successfully deleted the Pooled data, the status of SVs and the Block is Old, and both Failed SP Lists are empty, the NPA-NXX-X is deleted
CLASS	Custom Local Area Signaling Services Premium local service features, such as call forwarding or automatic callback
CMIP	Common Management Information Protocol
CMISE	Common Management Information Service Element
CNAM	Caller Id with Name
Code Holder	The code holder is the entity to which NANPA has assigned the NPA-NXX code This assignment is reflected in the LERG Routing Guide
Contaminated Number	An unavailable number (e g , working), within a 1K Block, at the time the 1K Block is donated to the Pooling Administrator
De-Pool	Return of a 1K pooled block to the Number Administrator Also referred to as "un-allocation of the block", or "reclamation" (INC definition)
Default Routing Restoration	Reinstatement of the default routing for the TN as defined in the applicable block information, in order to provide vacant number treatment
DPC	Destination Point Code
EDR (Efficient Data Representation)	The ability to represent 1000 TNs as a range
EDR within the NPAC	A storage mechanism where a 1K range of TNs is represented, stored and communicated as a Range entity
Effective Date	The date that is considered to be the "ownership switchover" date for the 1K Block from the Code Holder (NPA-NXX owning SP) to the Block Holder (NPA-NXX-X owning SP) This is the date published in the LERG Routing Guide, and is also used by the Pooling Administrator and the NPAC
FR	Frame Relay
GDMO	Guideline for Definition of Managed Objects

GMT	Greenwich Mean Time
GTT	Global Title Translation
ICC	Illinois Commerce Commission
ISO	International Organization of Standardization
ISVM	Inter-Switch Voice Mail
LERG	Refers to the Telcordia™ LERG™ Routing Guide
LIDB	Line Information Database
LNP	Local Number Portability
Local Time (in the GUI)	The time zone of the local user Most time representations in the NPAC OP GUI are represented in the user's local time zone based on the PC's clock being set to the correct time The time zone label is included in time display in the GUI
LRN	Location Routing Number A routing number in the same form as a TN used to identify the TN's serving switch when the TN is a ported number
LSMS	Local Service Management System
LISP	Local Intra-Service Provider Portability Movement of end-user TN from one switch to another, but within the same Service Provider's Network
LSPP	Local Service Provider Portability Movement of end user TN from one Service Provider to another Service Provider
MAC	Media Access Control
MD5	Message Digest (Version 5)
NANP	North American Numbering Plan A 10-digit numbering scheme used in North America to uniquely identify a directory number
NPA	An NPA code is the first three digits of the 10-digit destination number for all inter-NPA calls within the North America Numbering Plan Area
NPA-NXX-X	A range of 1000 pooled TNs within the NPA-NXX, beginning with a station of n000, and ending with n999, where n is a value between 0 and 9
NPAC Customer	Any customer of the NPAC SMS
NPAC SMS	Number Portability Administration Center and Service Management System
NSAP	Network Layer Service Access Point
Number Pooling Block Holder Information	Data in the NPAC SMS that contains the first 7-digits of a 1K range of TNs, default routing for a block of TNs, and the activation timestamp of the TNs within the 1K range
Number Pooling NPA-NXX-X Holder Information	Data in the NPAC SMS that contains the first 7-digits of a range of TNs, the block holder (service provider), and the effective date of the block According to the NPAC definition, this is considered Network data
NXX	A code normally used as a central office code It may also be used as an NPA code or special NPA code

OCN	Operating Company Number
OSI	Open Systems Interconnect
Pending-like SVs	SVs that contain a status of pending, conflict, cancel-pending, or failed
PKCS	Public Key Crypto System
Port on Demand	Porting of a single TN or range of TN's from the code holder to the block holder at a time desired by the block holder that is on, or after the effective date of the pool This is NOT supported by the National Number Pooling architecture
Ported TN	A TN ported to a switch that is not the NANP-assigned switch
PPP	Point-To-Point Protocol
Pre-Port	Porting of an entire block of TN's from the code holder to the block holder on, or after, the effective date of the pool This is supported by the National Number Pooling architecture
PSAP	Presentation Layer Service Access Point
Roll-Up Activity	The consolidation/closure of a broadcast event in the NPAC, and feedback (responses, non-responses) from each Service Provider, such that the status and failed-list for an SV or NPB will be updated
RFP	Request for Proposal
RSA	A popular encryption algorithm whose name is derived from the initials of its inventors: Rivest, Shamir, and Adelman
Schedule/Re-Schedule of Block Create Event	A process within the NPAC SMS that allows NPAC Personnel to create a Scheduled Event in the NPAC SMS, for a Block Create The Event can be immediately kicked-off, or scheduled for a future date (pending validation edits in both of these cases)
SCP	Service Control Point
SIC-SMURF	Selection Input Criteria SPID Migration Update Request Files Files created by the NPAC SMS and used by NPAC and Service Providers to update their databases during a SPID Migration Update
SMS	Service Management System
Snapback	Notification for TN reassignment
SOA	Service Order Activation
SP	Service Provider Generally refers to a facilities-based user of the NPAC SMS
SSAP	Session Layer Service Access Point
SSN	Subsystem Number
TN	Telephone Number
TSAP	Transport Layer Service Access Point
Unique Alarmable Error Message (Code)	An individual error message in the NPAC SMS that is only used by the NPAC for the individual Number Pooling requirement where the error message is listed Alarming of the error message is configurable (i e , it can either be turned ON or turned OFF)
URI	Uniform Resource Identifier

Vacant Number	A non-working number
Vacant Number Treatment	A recorded announcement played to the calling party, when the NPA-NXX of the TN they have dialed is valid, but the 10-digit TN is not a working number
Version	Time-sensitive or status-sensitive instance of a subscription
WSMSC	Wireless Short Message Service Center
XML	eXtensible Markup Lauguage

Appendix C. System Tunables

This appendix provides a comprehensive list of tunables identified throughout the FRS and their default values

SUBSCRIPTION TUNABLES			
Tunable Name	**Default Value**	**Units**	**Valid Range**
Long Initial Concurrence Window	9	business hours	1-72
The hours subsequent to the time the subscription version was initially created by which both Service Providers are expected to authorize transfer of service if this is an Inter-Service Provider port and at least one of the Service Providers are using "Long" timers (T1 timer)			
Long Final Concurrence Window	9	business hours	1-72
The number of hours after the concurrence request is sent by the NPAC SMS by which time both Service Providers are expected to authorize transfer of subscription service for an Inter-Service Provider port and at least one of the Service Providers are using "Long" timers (T2 timer)			
Short Initial Concurrence Window	1	business hours	1-72
The hours subsequent to the time the subscription version was initially created by which both Service Providers are expected to authorize transfer of service if this is an Inter-Service Provider port and both of the Service Providers are using "Short" timers (T1 timer)			
Short Final Concurrence Window	1	business hours	1-72
The number of hours after the concurrence request is sent by the NPAC SMS by which time both Service Providers are expected to authorize transfer of subscription service for an Inter-Service Provider port and both of the Service Providers are using "Short" timers (T2 timer)			
Conflict Expiration Window	30	calendar days	1-180
The length of time conflict subscriptions will remain in the conflict state before cancellation			
Maximum Subscription Query	50	records	10-1000
The maximum number of subscription versions returned by a query to the NPAC			
Pending Subscription Retention	90	calendar days	1-180

SUBSCRIPTION TUNABLES			
Tunable Name	**Default Value**	**Units**	**Valid Range**
The length of time pending subscriptions will remain in the pending state before cancellation			
Conflict Restriction Window	17 00 UTC daylight savings time 18 00 UTC standard time	HH:MM	00:00-24:00
The time on the business day prior to the New Service Provider due date that a Subscription version **is no longer allowed to be** set to conflict by the Old Service Provider provided that the Create Subscription Version Final Concurrence Window (T2) timer has expired **The Conflict Restriction Window does not apply for short timers.**			
Long Conflict Resolution New Service Provider Restriction	6	business hours	1-72
The number of business hours after the subscription version is put into conflict that the NPAC SMS will prevent it from being removed from conflict by the new Service Provider using long timers			
Short Conflict Resolution New Service Provider Restriction	6	Business hours	1-72
The number of business hours after the subscription version is put into conflict that the NPAC SMS will prevent it from being removed from conflict by the new Service Provider using short timers			
Long Cancellation-Initial Concurrence Window	9	Business hours	1-72
The numbers of hours after the version is set to cancel pending by which both Service Providers using long timers are expected to acknowledge the pending cancellation			
Short Cancellation-Initial Concurrence Window	9	Business hours	1-72
The numbers of hours after the version is set to cancel pending by which both Service Providers using short timers are expected to acknowledge the pending cancellation			
Long Cancellation-Final Concurrence Window	9	business hours	1-72
The number of hours after the second cancel pending notification is sent by which both Service Providers using long timers are expected to acknowledge the pending cancellation			
Short Cancellation-Final Concurrence Window	9	business hours	1-72

SUBSCRIPTION TUNABLES			
Tunable Name	**Default Value**	**Units**	**Valid Range**
The number of hours after the second cancel pending notification is sent by which both Service Providers using short timers are expected to acknowledge the pending cancellation			
Old Subscription Retention	18	calendar months	1-36
The length of time old subscriptions will be retained			
Cancel-Pending Subscription Retention	90	calendar days	1-360
The length of time canceled subscriptions, with last status of pending, will be retained			
Cancel-Conflict Subscription Retention	30	calendar days	1-360
The length of time canceled subscriptions, with last status of conflict, will be retained			
Short Business Day Duration	12	calendar hours	1-24
The number of hours from the tunable business day start time for short business days			
Long Business Day Duration	12	calendar hours	1-24
The number of hours from the tunable business day start time for long business days			
Short Business Day Start Time	13 00 UTC daylight savings time 14 00 UTC standard time	hh mm	00:00 - 24:00
The start of the business day for short business days The value is specified by the contracting region			
Long Business Day Start Time	9:00AM Local Time (in the predominant time zone) within each region, stored in UTC	hh mm	00:00 - 24:00
The start of the business day for long business days in that region The value is specified by the contracting region			
Short Business Days	Monday – Friday	Days	Monday – Sunday

SUBSCRIPTION TUNABLES			
Tunable Name	**Default Value**	**Units**	**Valid Range**
The business days available for Service Providers using short business days			
Long Business Days	Sunday – Saturday	Days	Sunday – Saturday
The business days available for Service Providers using long business days			
Regional NPAC NPA-NXX Live Indicator	TRUE		TRUE/FALSE
Tunable that indicates whether or not the NPA-NXX Live TimeStamp functionality will be supported by the NPAC SMS for a particular NPAC Region			
Regional Automatic Conflict Cause Code	TRUE		TRUE/FALSE
Tunable that indicates whether or not the Automatic Conflict Cause Code functionality will be supported by the NPAC SMS for a particular NPAC Region			
Regional Prevent Conflict Resolution 50/51 Tunable	TRUE		TRUE/FALSE
Tunable that indicates whether or not the prevention of conflict resolution for cause code 50 or 51 by the New Service Provider is supported by the NPAC SMS for a particular NPAC Region			
Regional Un-Do Cancel-Pending Subscription Version Tunable	TRUE		TRUE/FALSE
Indicates whether or not Un-Do Cancel-Pending functionality is supported by the NPAC SMS for a particular NPAC Region			
Medium Initial Concurrence Window	3	business hours	1-72
The hours subsequent to the time the subscription version was initially created by which both Service Providers are expected to authorize transfer of service if this is an Inter-Service Provider simple port and at least one of the Service Providers uses "Long" timers for non-simple ports (T1 timer)			
Medium Final Concurrence Window	3	business hours	1-72
The number of hours after the concurrence request is sent by the NPAC SMS by which time both Service Providers are expected to authorize transfer of subscription service for an Inter-Service Provider simple port and at least one of the Service Providers uses "Long" timers for non-simple ports (T2 timer)			
Medium Conflict Restriction Window	21:00	HH MM	00:00-23:59
The time on the business day prior to the New Service Provider due date that a simple port Subscription version is no longer allowed to be set to conflict by the Old Service Provider provided that the Create Subscription Version Final Concurrence Window (T2) timer has expired This time uses the predominate time zone of the NPAC region (adjusted for Standard/Daylight, stored in UTC)			

Medium Conflict Resolution New Service Provider Restriction	2	business hours	1-72
The number of business hours after the simple port subscription version is put into conflict that the NPAC SMS will prevent it from being removed from conflict by the new Service Provider using medium timers			
Medium Cancellation-Initial Concurrence Window	9	Business hours	1-72
The numbers of hours after the version is set to cancel pending by which both Service Providers using medium timers are expected to acknowledge the pending cancellation			
Medium Cancellation-Final Concurrence Window	9	business hours	1-72
The number of hours after the second cancel pending notification is sent by which both Service Providers using medium timers are expected to acknowledge the pending cancellation			
Medium Business Day Duration	17	calendar hours	1-24
The number of hours from the tunable business day start time for medium business days			
Medium Business Day Start Time	07:00	hh:mm	00:00 - 23:59
The start of the business day for short business days The value is specified by the contracting region This time uses the predominate time zone of the NPAC region (adjusted for Standard/Daylight, stored in UTC)			
Medium Business Days	Monday – Friday	Days	Monday – Sunday
The business days available for Service Providers supporting Simple Ports			

Table C–1 -- Subscription Tunables

COMMUNICATIONS TUNABLES			
Tunable Name	**Default Value**	**Units**	**Valid Range**
Subscription Activation Retry Attempts	3	attempts	1-10
The number of times a new subscription version will be sent to a Local SMS which has not acknowledged receipt of the activation request			
Subscription Activation Retry Interval	2	minutes	1-60

COMMUNICATIONS TUNABLES			
Tunable Name	**Default Value**	**Units**	**Valid Range**
The delay between sending new Subscription Versions to a Local SMS that has not acknowledged receipt of the activation request			
Subscription Modification Retry Attempts	3	attempts	1-10
The number of times a modified active subscription version will be sent to a Local SMS which has not acknowledged receipt of the modification request			
Subscription Modification Retry Interval	2	minutes	1-60
The delay between sending modified active subscription versions to a Local SMS that has not acknowledged receipt of the modification request			
Subscription Disconnect Retry Attempts	3	attempts	1-10
The number of times the NPAC SMS will resend a subscription disconnect message to an unresponsive Local SMS			
Subscription Disconnect Retry Interval	2	minutes	1-60
The amount of time that shall elapse between subscription disconnect retries			
Local SMS Retry Attempts	3	attempts	1-10
The default number of times the NPAC SMS will resend a message to an unresponsive Local SMS			
Local SMS Retry Interval	2	minutes	1-60
The default delay between sending messages to an unresponsive Local SMS			
SOA Retry Attempts	3	attempts	1-10
The default number of times the NPAC SMS will resend a message to an unresponsive SOA			
SOA Retry Interval	2	minutes	1-60
The default delay between sending messages to an unresponsive SOA			
Failed Login Attempts	3	attempts	0-10
The number of allowable incorrect logon attempts			
Failed Login Shutdown Period	60	seconds	0-300
The amount of time the NPAC SMS will wait to restart the logon process after a user has exceeded the Failed_Login_Attempts tunable			

COMMUNICATIONS TUNABLES			
Tunable Name	**Default Value**	**Units**	**Valid Range**
Unused User Id Disable Period	60	days	1-360
The number of days for which a userId has not been used before the NPAC SMS disables that userId			
Password Age Limit	90	days	1-360
The amount of time for password aging			
Password Expiration Notice	7	days	1-30
The amount of time prior to a password expiring that the NPAC SMS will notify a user			
Post Expiration Logins	2	logins	0-10
The number of logins a user is permitted after the user's password has expired			
Password Reuse Limit	6	months	1-36
The amount of time in which a password cannot be reused			
Record Logons After Failure	10	attempts	0-100
The threshold for consecutive failed logon attempts after which logon attempts will be recorded in the audit log			
Non-Use Disconnect	60	minutes	1-1440
The amount of idle (non-use) time before the NPAC SMS will disconnect a user's logon session			
Maximum Number of Download Records	10000	records	1-200000
The maximum number of SV records for a single data download for a TN-based recovery request Also, the maximum number of records for a single data download for a network data recovery request Refer to the NPAC Customer Data Model, section 3 1 2, for information on the maximum for timestamp-based SV recovery requests			
Maximum Download Duration	60	minutes	1-1440
The maximum time range allowed for a data download			
Maximum Number of Download Notifications	2000	records	1-2000
The maximum number of notifications for a single notification recovery download			
Service Provider and Network Data Linked Replies Blocking Factor	50	objects	1-2000

COMMUNICATIONS TUNABLES			
Tunable Name	**Default Value**	**Units**	**Valid Range**
The maximum number of objects in a single service provider or network data recovery linked reply response			
Subscription Data Linked Replies Blocking Factor	50	objects	1-2000
The maximum number of objects in a single subscription data recovery linked reply response			
Notification Data Linked Replies Blocking Factor	50	notifications	1-2000
The maximum number of notifications in a single notifications recovery linked reply response			
Number Pool Block Data Linked Replies Blocking Factor	50	Objects	1-2000
The maximum number of objects in a single number pool block data recovery linked reply response			
Service Provider and Network Data Maximum Linked Recovered Objects	10000	objects	1-10000
The maximum number of objects sent in a service provider or network data recovery response, when the SOA/LSMS supports Linked Replies			
Subscription Data Maximum Linked Recovered Objects	10000	objects	1-10000
The maximum number of objects sent in a subscription data recovery response, when the LSMS supports Linked Replies			
Notification Data Maximum Linked Recovered Notifications	2000	notifications	1-10000
The maximum number of notifications sent in a notification recovery response, when the SOA/LSMS supports Linked Replies			
Number Pool Block Data Maximum Linked Recovered Objects	10000	objects	1-10000
The maximum number of objects sent in a number pool block data recovery response, when the LSMS supports Linked Replies			
SOA SWIM Maximum Tunable	50000	objects	10000 – 100000
The maximum number of messages that will be stored by the NPAC for Service Providers that support SWIM recovery			
LSMS SWIM Maximum Tunable	50000	objects	10000 – 100000

COMMUNICATIONS TUNABLES			
Tunable Name	**Default Value**	**Units**	**Valid Range**
The maximum number of messages that will be stored by the NPAC for Service Providers that support SWIM recovery			
Out-Bound Flow Control Upper Threshold Tunable	100	Messages	50 – 500
The number of non-responsive messages sent to a SOA/LSMS before Out-Bound Flow Control is invoked			
Out-Bound Flow Control Lower Threshold Tunable	75	Messages	1 – 500
The number of non-responsive messages sent to a SOA/LSMS that is in a Flow Control state before normal processing is resumed, on a per association basis			
Roll-Up Activity - Single Tunable	15	Minutes	1 - 60
The number of minutes before roll-up activity is initiated for an event involving a single SV			
Roll-Up Activity Timer Expire SVRange Tunable	60	Minutes	1 - 60
The number of minutes before roll-up activity is initiated for an event involving a range of SVs			
Abort Processing Behavior Upper Threshold Tunable	60	Minutes	1 - 180
The number of minutes before an NPAC abort will occur for a SOA/LSMS that has at least one outstanding message with a delta between the origination time and the current time that is equal to or greater than the tunable window, regardless of whether the SOA/LSMS has incurred any other activity (request or response)			
Regional NPAC NPA Edit Flag Indicator	False	Boolean	True/False
An indicator as to whether or not NPA edits will be enforced by the NPAC SMS for a particular NPAC region			
NPAC SMS Application Level Heartbeat Tunable	15	Minutes	5 – 60
Defines the period of quiet time (no interface traffic) the NPAC should wait after the receipt of any interface traffic (request or response), before sending an Application Level Heartbeat message to the SOA/Local SMS			
NPAC SMS Application Level Heartbeat Timeout Tunable	1	Minutes	1 - 5
The period of time the NPAC should wait after sending an Application Level Heartbeat message to the SOA/Local SMS, and not receiving a response from the SOA/Local SMS, before aborting the association			
Max Query Reply Byte Size	1000000	Bytes	1000000-5000000
Maximum query reply size in bytes for the XML Interface			
Max Batch Byte Size	1000000	Bytes	1000000-5000000

COMMUNICATIONS TUNABLES			
Tunable Name	**Default Value**	**Units**	**Valid Range**
Maximum batch size in bytes for the XML Interface			
Max Batch Message Quantity	100	Messages	1-100
Maximum number of messages within a batch for the XML Interface			
HTTPS Keep-Alive Timeframe	2	Minutes	0-30
HTTPS inactivity timeout duration in minutes before issuing a Keep-Alive message for the XML Interface			
XML Application Heartbeat Interval	15	Minutes	1-60
XML Application-Level inactivity duration in minutes before issuing a Heartbeat message for the XML Interface			

Table C–2 -- Communications Tunables

AUDIT TUNABLES			
Tunable Name	**Default Value**	**Units**	**Valid Range**
Canceled Audit Retention Period	30	days	1-360
The length of time canceled audits will be retained			
Data Integrity Sample Size	1000	SVs	1-5000
The number of active Subscription Versions in a sample to be monitored by the NPAC SMS			
Data Integrity Sample Frequency	7	Days	1-90
The interval in days between Data Integrity Samples conducted by the NPAC SMS			
Subscription Query Record Limit	50	Subscriptions	1-5000
The maximum number of records that can be returned from a query			

Table C–3 -- Audit Tunables

LOGS TUNABLES			
Tunable Name	**Default Value**	**Units**	**Valid Range**

LOGS TUNABLES			
Tunable Name	**Default Value**	**Units**	**Valid Range**
Local SMS Activation Log Retention Period	90	days	1-360
The number of days Local SMS activation responses will remain in the log			
Audit Log Retention Period	90	days	1-360
The length of time audit logs will be retained			
Error Log Retention Period	90	days	1-360
The length of time system error logs will be retained			
History File Data Storage	365	days	1-365
The length of time history logs will be retained			
Usage Log Retention	90	days	1-360
The length of time usage logs will be retained			

Table C–4 – Logs Tunables

KEYS TUNABLES			
Tunable Name	**Default Value**	**Units**	**Valid Range**
Key Change Interval	365	days	1-365
How often the key is changed automatically			

Table C–5 – Keys Tunables

BLOCK TUNABLES			
Tunable Name	**Default Value**	**Units**	**Valid Range**
NPA-NXX Availability – First Usage Effective Date Window	5	days	5-360

BLOCK TUNABLES			
Tunable Name	**Default Value**	**Units**	**Valid Range**
The minimum length of time between the Creation date (exclusive) and the effective date/due date (inclusive), when creating a NPA-NXX-X (excluding pseudo-LRN) or Subscription Version (excluding pseudo-LRN) for the first time within that NPA-NXX			

Table C–6 -- Block Tunables

SOA Notification Priority Tunables

Many notifications are sent to both the Old Service Provider and the New Service Provider As indicated in the table below, some of these notifications can have different priorities based on whether the Service Provider is acting as the Old Service Provider or the New Service Provider for the port During the notification evaluation process this option was not given to all notifications that are sent to both the Old Service Provider and the New Service Provider for one or more reasons Some of those reasons were:

- volume of the particular notification was very small
- importance of the particular notification was determined to be equal whether a Service Provider was acting as the Old Service Provider or the New Service Provider for the port

Notification priorities are applied to the XML interface, however, all attributes in the StatusAttributeValueChange notification have been merged into the AttributeValueChange notification as indicated in the XML Schema Only the AttributeValueChange notification is used in the XML interface (business rules applying priority are the same except where noted in the table)

Notification suppression on requests will be processed according to the results of notification suppression options on a request, along with notification suppression authorization list data

#	Notification Name	Priority
L-1.0	**NPAC SMS Operational Information Notification**	MEDIUM
L-2.0	**Subscription Audit Discrepancy Report** For the XML interface, notification is N/A, as audit discrepancy is included in a separate Audit Results notification	MEDIUM
L-3.0	**Subscription Audit Results**	MEDIUM
L-4.0 A	**Subscription Version Cancellation Acknowledge Request** Scenario A: the OLD SP is requesting cancellation and no concurrence from New SP	MEDIUM
L-4.0 B	**Subscription Version Cancellation Acknowledge Request** Scenario B: the New SP is requesting cancellation and no concurrence from Old SP	MEDIUM
L-6.0 A	**Subscription Version - Donor SP - Customer Disconnect Date Notification** Scenario A: the current SP is disconnecting a regular (non-pooled) SV	MEDIUM
L-6.0 B	**Subscription Version - Donor SP - Customer Disconnect Date Notification** Scenario B: the Number Pool Block is de-pooled and the associated pooled SVs are returning back to the NPA-NXX (code) owner	MEDIUM
L-7.0	**Subscription Version Local SMS Action Results**	N/A
L-8.0	**Subscription Version New NPA-NXX Notification**	MEDIUM (to SOA)

L-9.0	**Subscription Version New SP Create Request Notification (T1 timer expiration for New SP concurrence)**	MEDIUM
L-10.0	**Subscription Version Old SP Concurrence Request Notification (T1 timer expiration for Old SP concurrence)**	MEDIUM
L-11.0 A1	**Subscription Version Status Attribute Value Change Notification – Activates – To the New Service Provider** When an INTER or INTRA SV has been created in the Local SMSs (or 'activated' by the SOA) and the SV status has been set to: *Active* or *Partial-Failure* The notification is sent to both SOAs: Old and New If the status has been set to *Partial-Failure*, this notification contains the list of Service Providers (SP) LSMSs that have failed to receive the broadcast Note: See L-11 0 E for Deletes and L-11 0 F for Modify Actives	MEDIUM
L-11.0 A1.5	**Subscription Version Status Attribute Value Change Notification – Activates – To the Old Service Provider** When an INTER or INTRA SV has been created in the Local SMSs (or 'activated' by the SOA) and the SV status has been set to: *Active* or *Partial-Failure* The notification is sent to both SOAs: Old and New If the status has been set to *Partial-Failure*, this notification contains the list of Service Providers (SP) LSMSs that have failed to receive the broadcast Note: See L-11 0 E for Deletes and L-11 0 F for Modify Actives	MEDIUM
L-11.0 A2	**Subscription Version Status Attribute Value Change Notification – re-sends to fail list – To The New Service Provider** Intermediate Notification for Partial Failure Every time a SP is removed from the Failed SP-List, the NPAC re-sends the notification to both SOAs This iteration happens until the last SP is cleared from the fail-list	MEDIUM
L-11.0 A2.5	**Subscription Version Status Attribute Value Change Notification – re-sends to fail list – To The Old Service Provider** Intermediate Notification for Partial Failure Every time a SP is removed from the Failed SP-List, the NPAC re-sends the notification to both SOAs This iteration happens until the last SP is cleared from the fail-list	MEDIUM
L-11.0 A3	**Subscription Version Status Attribute Value Change Notification – clear Fail List – To The New Service Provider** Final Notification associated with a Partial Failure Upon clearing the Failed SP-List, the NPAC sends the same notification to both SOAs but with an SV status of *active* and empty fail-list	MEDIUM
L-11.0 A3.5	**Subscription Version Status Attribute Value Change Notification – clear Fail List – To The Old Service Provider** Final Notification associated with a Partial Failure Upon clearing the Failed SP-List, the NPAC sends the same notification to both SOAs but with an SV status of *active* and empty fail-list	MEDIUM
L-11.0	**Subscription Version Status Attribute Value Change Notification – total**	MEDIUM

B	**failure** When an SV has failed to be created (or 'activated') in ALL LSMSs and the SV status has been set to *Failed* The notification is sent to both SOAs: Old and New	
L-11.0 C	**DELETED**	
L-11.0 D1	**Subscription Version Status Attribute Value Change Notification – re-sends** When the NPAC re-sends Modify Active or Deletes to the LSMSs for SVs with statuses of *Active* or *Old*, with a Fail SP List (the notification is sent regardless of the final status of the SV) The notification is sent to the Current (New) SOA	MEDIUM
L-11.0 E	**Subscription Version Status Attribute Value Change Notification – set to OLD** When the SV status has been set to *old* (Port to Original, port-of-a port, port to original of a Pool TN (or snap back), disconnect, disconnect of a ported Pool TN) The notification is received only by those SOAs that actually have the SV in their local DB It varies with the scenario Note: See L-11 0 A1 5 for Activates and L-11 0 F for Modify Actives	MEDIUM
L-11.0 F	**Subscription Version Status Attribute Value Change Notification – Modify active** When an *Active* SV has been modified in the LSMS or there has been a cancellation of a D*isconnect-Pending* SV and the status of the SV has been re-set to *Active* (with or without a Fail-SP-List) The notification is sent only to the current SOA Note: See L-11 0 A1 for Activates and L-11 0 E for Deletes	MEDIUM
L-11.0 G	**Subscription Version Status Attribute Value Change Notification – cancel pending** When a *Pending* or *Conflict* SV has been cancelled by the Old or New SP and the NPAC SMS has set the SV status to *Cancel-Pending* Also, when a *Cancel-Pending* SV is modified back (un-do) to *Pending* The notification is sent to both SOAs: Old and New	MEDIUM
L-11.0 H1	**Subscription Version Status Attribute Value Change Notification - cancel** When the NPAC SMS has set the status of a, *cancel-pending,* SV to *CANCEL* after concurrence and cancellation acknowledgment by both SOAs has been received in the NPAC The notification is sent to both SOAs: Old and New	MEDIUM
L-11.0 H2	**Subscription Version Status Attribute Value Change Notification - cancel** When the NPAC SMS has set the status of a, *cancel-pending,* SV to *CANCEL* after the New Service Provider has cancelled the Pending SV but the Old Service Provider has not acknowledged the cancellation by the time the Cancellation Acknowledgement Final Concurrence Timer has expired The notification is sent to both SOAs: Old and New	MEDIUM
L-11.0 H3	**Subscription Version Status Attribute Value Change Notification - cancel** When the NPAC SMS has set the status of a *pending* SV to *CANCEL* after	MEDIUM

	cancellation request by the originating SOA with no concurrence from the other SOA (Only one create action has been received in the NPAC and the same provider sends the cancellation request before the second provider send a create request) The notification is sent to both SOAs: Old and New	
L-11.0 H4	**Subscription Version Status Attribute Value Change Notification - cancel** When the NPAC SMS has set the status of a *conflict* SV to *CANCEL* after the Conflict Cancellation Window expires, if no resolution has been reached for the conflict, the NPAC automatically cancels the *Conflict* SV The notification is sent to both SOAs: Old and New	MEDIUM
L-11.0 I	**Subscription Version Status Attribute Value Change Notification – Disconnect pending** When an *active* SV is being disconnected with an Effective Release Date in the NPAC and the SV status is set to *Disconnect-Pending* Only the current SOA receives the notification	MEDIUM
L-11.0 J	**Subscription Version Status Attribute Value Change Notification – Fail disconnect** When the NPAC attempts to delete an *Active* SV and the request fails to ALL LSMSs and the SV status is re-set to *Active* Only the Current SOA receives the notification	MEDIUM
L-11.0 K1	**Subscription Version Status Attribute Value Change Notification - Conflict** When the status of a *Pending* SV is set to *conflict* The notification is sent to both SOAs: Old and New For the XML interface, notification is N/A, as status is included in a separate Attribute Value Change notification	MEDIUM
L-11.0 K2	**Subscription Version Status Attribute Value Change Notification - Conflict** When the status of a *Cancel-Pending* SV is set to *conflict* Cancel-Pending to Conflict is when the Old Service Provider has cancelled the Pending SV but the New Service Provider has not acknowledged the cancellation by the time the Cancellation Acknowledgement Final Concurrence Timer has expired The notification is sent to both SOAs: Old and New For the XML interface, notification is N/A, as status is included in a separate Attribute Value Change notification	MEDIUM
L-11.0 L	**Subscription Version Status Attribute Value Change Notification** After Conflict Resolution, when the status of the *Conflict* SV is re-set to *Pending* The notification is sent to both SOAs: Old and New For the XML interface, notification is N/A, as status is included in a separate Attribute Value Change notification	MEDIUM
L-12.0 A	**Subscription Version Old SP Final Concurrence Timer Expiration Notification** (T2 expiration for Old SP concurrence sent to Old SP)	MEDIUM
L-12.0 B	**Subscription Version Old SP Final Concurrence Timer Expiration Notification**	NONE

	(T2 expiration for Old SP concurrence sent to New SP)	
L-13.0 A	**Number Pool Block Status Attribute Value Change Notification** The Pool Block has being created in the LSMSs and the Block Status has being set to Active or Partial Failure;	MEDIUM
L-13.0 B	**Number Pool Block Status Attribute Value Change Notification** The creation of the Pool Block has failed in all the LSMSs and the Block Status has been set to Failed	MEDIUM
L-13.0 C	**Number Pool Block Status Attribute Value Change Notification** The NPAC attempts to re-send a failed Pool Block or failed SVs to SP in the fail-SP-List of the Block and the Block status changes to Active, Partial Failure or Failure	MEDIUM
L-13.0 D	**Number Pool Block Status Attribute Value Change Notification** The attributes in the Pool Block have been modified in the LSMSs and the Block Status has been re-set to Active (with or without fail-sp-list)	MEDIUM
L-13.0 E	**Number Pool Block Status Attribute Value Change Notification** When a Pool Block has been 'de-pooled' from the LSMSs and the Block Status has been set to Old (with or without fail-sp-list)	MEDIUM
L-13.0 F	**Number Pool Block Status Attribute Value Change Notification** When the NPAC SMS has attempted to 'de-pool' a block but the request has failed to ALL LSMSs and the Block Status has been reset to Active with a Failed-SP-list	MEDIUM
L-14.0	**Subscription Version New SP Final Create Window Expiration Notification** It will be sent after T2 expiration to both SPs SOAs (old and new) to inform them that the T2 timer has expired and the new SP hasn't send its create request yet The SV will remain in status of Pending until the New SP sends the Create or the NPAC cancels it	MEDIUM
S-1.00	**Object Creation**	MEDIUM
S-2.00	**Object Deletion**	MEDIUM
S-3.00 A	**Attribute Value Change** For pending SVs	MEDIUM
S-3.00 B	**Attribute Value Change** For Pool Blocks	MEDIUM
S-3.00 C	**Attribute Value Change** For Mass Update of Active SVs and Pool Blocks	NONE

	Note: A separate AVC notification is sent that includes the modified attributes	

Table C–7 – SOA Notification Priority Tunables

Appendix D. Encryption Key Exchange

The CMIP interface to NPAC SMS requires an exchange of the encryption keys used to verify digital signatures This exchange will consist of a file containing the 1000 key list, and an acknowledgment of receipt of the list will consist of a file containing the MD5 checksum value of each key in the list This is a CMIP specific concept and applies only to the CMIP interface The formats for these files is described here

Key Exchange File

The following table shows the format of the encryption key exchange file This file consists of some header information, followed by 1000 instances of key information There are no separators of any kind between the individual fields, between the header and key data, or between each set of key data

ENCRYPTION KEY EXCHANGE FILE FORMAT

Field Number	Field Name	Type	Size (bytes)	Format
1	NPAC Customer Id	ASCII	4	Character String
2	File Creation Date	ASCII	14	MMDDYYYYHHmmSS
3	List Id	Binary	2	16 bit integer
4	Key Size (in bits)	Binary	4	32 bit integer
5	Key Id	Binary	2	16 bit integer
6	public exponent size	Binary	2	16 bit integer
7	public exponent	Binary	variable[1]	integer
8	public modulus	Binary	variable[2]	integer

[1] The size of the public exponent is determined by the previous field of the key data, public exponent size

ENCRYPTION KEY EXCHANGE FILE FORMAT				
Field Number	**Field Name**	**Type**	**Size (bytes)**	**Format**
9	Key Id	Binary	2	16 bit integer
10	public exponent size	Binary	2	16 bit integer
11	public exponent	Binary	variable	integer
12	public modulus	Binary	variable	integer
4001	Key Id	Binary	2	16 bit integer
4002	public exponent size	Binary	2	16 bit integer
4003	public exponent	Binary	variable	integer
4004	public modulus	Binary	variable	integer

Table D–1 – Encryption Key Exchange File Format

[2] The size of the public modulus is determined by the key size field in the header data The number of bytes for each modulus is equal to the number of bits divided by 8, rounded up

Key Acknowledgment File

Before a key list may be used, the sender must receive a key acknowledgment file The key acknowledgment file serves two purposes:

1 Verify that the key list has been received by the intended recipient

2 Verify the correctness of each key in the list

Furthermore, the need for an acknowledgment of this kind is specified in requirement R7-108 2 Once this file has been received, the sender of the key list can put the list into active use

Table D-1 below shows the format of the encryption key acknowledgment file This file consists of some header information, followed by 1000 instances of key hash information There are no separators of any kind between the individual fields, between the header and key hash data, or between each set of key hash data The MD5 hash value will be calculated from the public modulus value of the key

ENCRYPTION KEY ACKNOWLEDGEMENT FILE FORMAT				
Field Number	**Field Name**	**Type**	**Size (bytes)**	**Format**
1	NPAC Customer Id	ASCII	4	Character String
2	File Creation Date	ASCII	14	MMDDYYYYHHmmSS
3	List Id	Binary	2	16 bit integer
4	Key Id	Binary	2	16 bit integer
5	Key's MD5 hash	Binary	16	128 bit integer
6	Key Id	Binary	2	16 bit integer
7	Key's MD5 hash	Binary	16	128 bit integer
2002	Key Id	Binary	2	16 bit integer
2003	Key's MD5 hash	Binary	16	128 bit integer

Table D–2 -- Encryption Key Acknowledgement File Format

Key Exchange using PGP

LNP Key exchange can be accomplished via email, Secure FTP or an exchange of physical media using PGP for security Using PGP, a Service Provider will generate a pair of keys, one private and one public The Service Provider will transmit the public key to the NPAC This may be done via email or Secure FTP, or any other mechanism of exchanging files The key in this file is then saved by the NPAC's PGP program This key can now be used to encrypt files that only the Service Provider may decrypt, even if the key is intercepted by someone, it will not matter, they cannot use it to do anything other than encrypt messages for the Service Provider

At this point, the NPAC can encrypt a file containing the keys for the Service Provider This file may be emailed, put on the Secure FTP site, or put on a disk for the Service Provider

For LNP key lists that the Service Provider must provide to the NPAC, the reverse procedure would apply First the NPAC would send a public key to the Service Provider The Service Provider then encrypts their key list using the public key, and somehow gets the encrypted file to the NPAC

XML Keys

The XML interface to NPAC SMS uses certificates and is explained in the XML Interface Specification document The format for the XML keys is described here

SP-Key file format:

NPAC_TO_SOA | vPy;jgXR1usG
SOA_TO_NPAC | ZtEGVh2(BYDm
NPAC_TO_LSMS | xa6MozRe@PKe
LSMS_TO_NPAC | byaG1k?BZFMG

Appendix E. Download File Examples

The NPAC can generate Bulk Data Download files for Network Data (including SPID, LRN, NPA-NXX and NPA-NXX-X), Subscription Versions (including Number Pool Blocks) and Notifications

All fields within files discussed in the following section are variable length The download reason in all "Active-like" download files is always set to new The download reason in all "Latest View" download files is set to the appropriate download reason based on activation/modification/deletion activity ASCII 13 is the value used as the value for carriage return (CR) in the download files

All Time Stamps contained within the download files and SMURF files, and file names are in GMT (Greenwich Mean Time) Files that contain three timestamps reference the time the files is created, and start and end time range When the time range is not specified, the default start timestamp is 00-00-0000000000 and the default end timestamp is 99-99-9999999999

Subscription Download File

The following table describes each field of the sample subscription download file This download file example contains data for three subscriptions, with three lines for each subscription Each subscription is one record in the file, pipe delimited, with a carriage return (CR) between each subscription The breaks in the lines and the parenthesized comments are solely for ease of reading and understanding

Table E-1 describes the entries for subscription 1: The "Value in Example" column directly correlates to the values for subscription 1 in the download file example, as seen in Figure E-1

If the Bulk Data Download input selection criteria specifies *Latest View of Subscription Version Activity*, the file will include all subscription versions with a Broadcast Timestamp that falls within a specified time range If the Bulk Data Download input selection criteria specifies *Active/Disconnect Pending/Partial Failure Subscription Versions Only*, the file will include subscription versions with a status of Active, Disconnect Pending or Partial Failure or a status of Sending with a download reason of New or Modify that have an Activation timestamp that occurs at or before the time that the BDD request begins to be processed File data is further narrowed when the input selection criteria includes a TN range This will result in a file that includes information only on those subscription versions that fall within that TN range

The file name for the Subscriptions download file will be in the format:

> NPANXX-NPANXX DD-MM-YYYYHHMMSS DD-MM-YYYYHHMMSS DD-MM-YYYYHHMMSSThe NPANXX-NPANXX values map to the selection criteria The first timestamp is the time the request begins processing, the second timestamp is the beginning timestamp for the time range and the third timestamp is the ending timestamp for the time range For active-like views the second and third timestamp will be set by default

The file contents for the Subscription download file will be specific for the following indicators, based on the system type (SOA or LSMS) that is requesting the BDD File If support is TRUE, it will include pipes with the supplied value or blank (if no value was specified) If support is FALSE, it will NOT contain empty pipes as placeholders::

1 SOA supports WSMSC
2 SOA supports SV Type
3 SOA supports Optional parameters
4 LSMS supports WSMSC
5 LSMS supports SV Type
6 LSMS supports Optional parameters

The Subscriptions file given in the example would be named:
303123-303125 25-12-1996081122 25-12-1996080000 25-12-1996125959

```
0001|3031231000|1234567890|0001|19960916152337|
123123123|123|123123123|123|123123123|123|123123123|123|
123456789012|12|0001|0|0|||||||||(CR)                (end of subscription 1)
0002|3031241000|1234567891|0001|19960825011010|
123123123|123|123123123|123|123123123|123|123123123|123|
123456789013|13|0001|0|0|||||||||(CR)                (end of subscription 2)
0003|3031251000|1234567892|0001|19960713104923|
123123123|123|123123123|123|123123123|123|123123123|123|
123456789014|13|0001|0|0|||||||||(CR)                (end of subscription 3)
```

Figure E–1 -- Subscription Download File Example

EXPLANATION OF THE FIELDS IN THE SUBSCRIPTION DOWNLOAD FILE

Field Number	Field Name	Value in Example
1	Version Id	0000000001
2	Version TN	3031231000
3	LRN	1234567890
4	New Current Service Provider Id	0001
5	Activation Timestamp	19960916152337 (yyyymmddhhmmss)
6	CLASS DPC	123123123 (This value is 3 octets)
7	CLASS SSN	123 (This value is 1 octet and usually set to 000)
8	LIDB DPC	123123123 (This value is 3 octets)
9	LIDB SSN	123 (This value is 1 octet and usually set to 000)
10	ISVM DPC	123123123 (This value is 3 octets)
11	ISVM SSN	123 (This value is 1 octet and usually set to 000)
12	CNAM DPC	123123123 (This value is 3 octets)
13	CNAM SSN	123 (This value is 1 octet and usually set to 000)

EXPLANATION OF THE FIELDS IN THE SUBSCRIPTION DOWNLOAD FILE		
Field Number	**Field Name**	**Value in Example**
14	End user Location Value	123456789012
15	End User Location Type	12
16	Billing Id	0001
17	LNP Type	0
18	Download Reason	0
19	WSMSC DPC	Not present if LSMS or SOA does not support the WSMSC DPC as shown in this example If it were present the value would be in the same format as other DPC data
20	WSMSC SSN	Not present if LSMS or SOA does not support the WSMSC SSN as shown in this example If it were present the value would be in the same format as other SSN data
21	SV Type	Not present if LSMS or SOA does not support the SV Type as shown in this example If it were present the value would be as defined in the SV Data Model
	Optional Data parameters (e g , Alternative SPID, Alt-Billing ID, SMS URI) within the Optional Data Field are included/excluded based on a combination of the region's support for a specific parameter AND the requesting Service Provider's NPAC Customer profile settings at the time of BDD file generation The order of the included parameters is based on the latest version of the LNP XML schema that is available on the NPAC website (www npac com, under the software releases section)	
22+	Last Activity Timestamp	19960916152337 123 (yyyymmddhhmmss fff) Not present if LSMS or SOA does not support the Last Activity TS as shown in this example If it were present the value would be in Timestamp format (and include milliseconds)

Table E–1 – Explanation of the Fields in the Subscription Download File

Network Download File

The following tables describe each field of the network download files This series of download file examples contain data for one Service Provider that has three NPA-NXXs and three LRNs

If the Bulk Data Download input selection criteria specifies *Latest View of Network Data Activity*, the files will include data with a Broadcast Timestamp that falls within the specified time range (NPA-NXX and LRN will use Creation Timestamp for a match and NPA-NXX-X data will use Modified Timestamp for a match) If the Bulk Data Download input selection criteria specifies *All Network Data*, the files will include a representation of all network data as it exists on the NPAC SMS All SPID data is included all of the time, regardless of selection criteria

The Service Provider block contains one record in the file, individual fields are pipe delimited, with a carriage return(CR) after the Service Provider Id/Name The breaks in the lines and the parenthesized comments are solely for ease of reading and understanding

The "Value in Example" column in Table E-2 directly correlates to the values for the Service Provider in the download file example, as seen in Figure E-2

The file name for the Service Provider download file will be in the format:

SPID DD-MM-YYYYHHMMSS (The "SPID" portion is the literal string "SPID")

The Service Provider file given in the example would be named:

SPID 13-10-1996081122

The file contents for the Customer download file will be specific for the following indicators, based on the system type (SOA or LSMS) that is requesting the BDD File:

1 SOA supports SP Type
2 LSMS supports SP Type
3 (if either SOA supports is TRUE, or LSMS supports is TRUE, the SP Type will be included)

The NPAC Customer Data Model will contain two Service Provider tunables for the XML-related Last Activity Timestamp:

- SOA Supports Last Activity TS in BDD
- LSMS Supports Last Activity TS in BDD

The inclusion of the Last Activity TS in the BDD for a given Service Provider will be determined based on the value of these SP tunables

```
0001|AMERITECH|0(CR)                    (Service Provider Id/Name/SP Type)
```

Figure E–2 -- Network Service Provider Download File Example, SP Supports SP Type

```
0001|AMERITECH(CR)                      (Service Provider Id/Name)
```

Figure E–2a -- Network Service Provider Download File Example, SP Does Not Support SP Type

EXPLANATION OF THE FIELDS IN THE NETWORK SERVICE PROVIDER DOWNLOAD FILE		
Field Number	**Field Name**	**Value in Example**
1	Service Provider Id	0001
2	Service Provider Name	AMERITECH
3	Service Provider Type	Not present if the Service Provider does not support SP TYPE
4	Last Activity Timestamp	19960916152337 123 (yyyymmddhhmmss fff) Not present if LSMS or SOA does not support the Last Activity TS as shown in this example If it were present the value would be in Timestamp format (and include milliseconds)

Table E–2 -- Explanation of the Fields in the Network Service Provider Download File

NPA/NXX Download File

The NPA/NXX download block contains three records in the file, individual fields are pipe delimited, with a carriage return(CR) after each NPA-NXX record The breaks in the lines and the parenthesized comments are solely for ease of reading and understanding

The "Value in Example" column in Table E-3 directly correlates to the values for the first NPA/NXX in the download file example, as seen in Figure E-3

The file name for the NPA-NXX download file will be in the format:

NPANXX.DD-MM-YYYYHHMMSS.DD-MM-YYYYHHMMSS.DD-MM-YYYYHHMMSS (The NPANXX portion is the literal string "NPANXX")

The first timestamp in the filename is the time the download begins The second and third timestamps are the beginning and ending time ranges respectively In the case of the All Network Data view, the second and third time stamps are set by default as no time range may be set by the user for this view

The NPA-NXX file given in the example would be named:

NPANXX 13-10-1996081122 12-10-1998080000 13-10-1998133022

```
0001|2853|303-123|19960101155555|19960105000000|0(CR) (NPA-NXX 1)
0001|2864|303-124|19960101155556|19960105000000|0(CR) (NPA-NXX 2)
0001|2870|303-125|19960101155557|19960105000000|0(CR) (NPA-NXX 3)
```

Figure E–3 – Network NPA-NXX Download File Example

EXPLANATION OF THE FIELDS IN THE NETWORK NPA/NXX DOWNLOAD FILE		
Field Number	**Field Name**	**Value in Example**
1	Service Provider Id	0001
2	NPA-NXX Id	2853
3	NPA-NXX Value	303123
4	Creation TimeStamp	19960101155555
5	Effective TimeStamp	19960105000000
6	Download Reason	0
7	Modified TimeStamp	Not present if LSMS or SOA does not support the Modified feature (NANC 355) as shown in this example If it were present the value would be in the same format as other TimeStamp data

EXPLANATION OF THE FIELDS IN THE NETWORK NPA/NXX DOWNLOAD FILE		
Field Number	**Field Name**	**Value in Example**
8	Last Activity Timestamp	19960916152337 123 (yyyymmddhhmmss fff) Not present if LSMS or SOA does not support the Last Activity TS as shown in this example If it were present the value would be in Timestamp format (and include milliseconds)

Table E–3 -- Explanation of the Fields in the Network NPA/NXX Download File

LRN Download File

The LRN download block contains three records in the file, individual fields are pipe delimited, with a carriage return(CR) after each LRN record The breaks in the lines and the parenthesized comments are solely for ease of reading and understanding

The "Value in Example" column in Table E-4 directly correlates to the values for the first LRN in the download file example, as seen in Figure E-4

The file name for the LRN download file will be in the format:

LRN.DD-MM-YYYYHHMMSS.DD-MM-YYYYHHMMSS.DD-MM-YYYYHHMMSS (The LRN portion is the literal string "LRN")

The first timestamp in the filename is the time the download begins The second and third timestamps are the beginning and ending time ranges respectively In the case of the All Network Data view, the second and third time stamps are set by default as no time range may be set by the user for this view

The LRN file given in the example would be named:

LRN 13-10-1996081122 12-10-1998080000 13-10-1998133022

0001|1624|1234567890|19960101155559|0(CR)	(LRN 1)
0001|1633|1234567891|1996010115570010|0(CR)	(LRN 2)
0001|1650|1234567892|1996010115580505|0(CR)	(LRN 3)

Figure E–4 -- Network LRN Download File Example

EXPLANATION OF THE FIELDS IN THE NETWORK LRN DOWNLOAD FILE		
Field Number	**Field Name**	**Value in Example**

EXPLANATION OF THE FIELDS IN THE NETWORK LRN DOWNLOAD FILE		
Field Number	**Field Name**	**Value in Example**
1	Service Provider Id	0001
2	LRN Id	1624
3	LRN Value	1234567890
4	Creation TimeStamp	19960101155559
5	Download Reason	0
6	Last Activity Timestamp	19960916152337 123 (yyyymmddhhmmss fff) Not present if LSMS or SOA does not support the Last Activity TS as shown in this example If it were present the value would be in Timestamp format (and include milliseconds)

Table E–4 -- Explanation of the Fields in the Network LRN Download File

NPA-NXX-X Download File

The following table describes the sample NPA-NXX-X download file which contains two records in the file, individual fields are pipe delimited, with a carriage return (CR) after each NPA-NXX-X record The breaks in the lines and the parenthesized comments are solely for ease of reading and understanding

The "Value in Example" column in Table E-5 directly correlates to the values for the first NPA-NXX-X in the download file example, as seen in Figure E-5

The file name for the NPA-NXX-X download file will be in the format:

NPANXXX.DD-MM-YYYYHHMMSS.DD-MM-YYYYHHMMSS.DD-MM-YYYYHHMMSS (The NPANXXX portion is the literal string "NPANXXX", and the timestamp maps to the current time [GMT])

The first timestamp in the filename is the time the download begins The second and third timestamps are the beginning and ending time ranges respectively In the case of the All Network Data view, the second and third time stamps are set by default as no time range may be set by the user for this view

The NPA-NXX-X file given in the example would be named:

NPANXXX 02-11-1998133022 12-10-1998080000 13-10-1998133022

```
0001|2853|303-123-6|19980101155555|19980105000000|19980105001111|0(CR)     (NPA-NXX-X 1)
0001|2864|303-124-4|19980101155556|19980105000000|19980105001111|0(CR)     (NPA-NXX-X 2)
```

Figure E–5 -- Network NPA-NXX-X Download File Example

EXPLANATION OF THE FIELDS IN THE NETWORK NPA-NXX-X DOWNLOAD FILE

Field Number	Field Name	Value in Example
1	Service Provider Id	0001
2	NPA-NXX-X Id	2853
3	NPA-NXX-X Value	303-123-6
4	Creation TimeStamp	19980101155555
5	Effective TimeStamp	19980105000000
6	Modified TimeStamp	19980105001111
7	Download Reason	0
8	Last Activity Timestamp	19960916152337 123 (yyyymmddhhmmss fff) Not present if LSMS or SOA does not support the Last Activity TS as shown in this example If it were present the value would be in Timestamp format (and include milliseconds)

Table E–5 -- Explanation of the Fields in the Network NPA-NXX-X Download File

Block Download File

The following table describes each field of the sample Block download file This download file example contains data for three Blocks, with three lines for each Block Each Block is one record in the file, pipe delimited, with a carriage return(CR) between each Block The breaks in the lines and the parenthesized comments are solely for ease of reading and understanding

Table E-6 describes the entries for Block 1: The "Value in Example" column directly correlates to the values for Block 1 in the download file example, as seen in Figure E-6

Blocks in the download file are selected by a combination of NPA-NXX-X begin and end, as well as TIME begin and end range The TIME Range is keyed off the Broadcast Timestamp The file name for the Block download file will be in the format:

NPANXXX-NPANXXX DD-MM-YYYYHHMMSS DD-MM-YYYYHHMMSS DD-MM-YYYYHHMMSS

The NPANXXX-NPANXXX values map to the NPA-NXX-X selection criteria, the first stamp maps to the current time (when the file is generated), the second time stamp maps to the begin time range, and the third time stamp maps to the end time range All three time stamps are represented in GMT

The Block file given in the example would be named:

3031235-3031252 17-09-1996153344 11-07-1996091222 17-09-1996153344

The file contents for the Block download file will be specific for the following indicators, based on the system type (SOA or LSMS) that is requesting the BDD File If support is TRUE, it will include pipes with the supplied value or blank (if no value was specified) If support is FALSE, it will NOT contain empty pipes as placeholders::

1 SOA supports SV Type
2 SOA supports Optional parameters
3 LSMS supports SV Type
4 LSMS supports Optional parameters

The file contents for the Block download file will always contain pipes for the following indicators, based on the system type (SOA or LSMS) that is requesting the BDD File If support is TRUE, it will include the supplied value or blank (if no value was specified) If support is FALSE, it will always contain empty pipes as placeholders:

1 SOA supports WSMSC
2 LSMS supports WSMSC

The files available for LSMS compares will be defined as one or more NPA-NXX-Xs per file

```
1|3031231|1234567890|0001|19960916152337|123123123|123|123123123|
123|123123123|123|123123123|123|||0|||||||||(CR)                    (end of Block
1)
2|3031241|1234567891|0001|19960825011010|123123123|123|123123123|
123|123123123|123|123123123|123|||0|||||||||(CR)                    (end of Block
2)
3|3031251|1234567892|0001|19960713104923|123123123|123|123123123|
123|123123123|123|123123123|123|||0|||||||||(CR)                    (end of Block
3)
```

Figure E–6 -- Block Download File Example

EXPLANATION OF THE FIELDS IN THE BLOCK DOWNLOAD FILE		
Field Number	**Field Name**	**Value in Example**
1	Block Id	1
2	NPA-NXX-X	3031231
3	LRN	1234567890
4	New Current Service Provider Id	0001
5	Activation Timestamp	19960916152337 (yyyymmddhhmmss)
6	CLASS DPC	123123123 (This value is 3 octets)
7	CLASS SSN	123 (This value is 1 octet and usually set to 000)
8	LIDB DPC	123123123 (This value is 3 octets)
9	LIDB SSN	123 (This value is 1 octet and usually set to 000)
10	ISVM DPC	123123123 (This value is 3 octets)
11	ISVM SSN	123 (This value is 1 octet and usually set to 000)
12	CNAM DPC	123123123 (This value is 3 octets)
13	CNAM SSN	123 (This value is 1 octet and usually set to 000)
14	WSMSC DPC	123123123 (This value is 3 octets)
15	WSMSC SSN	123 (This value is 1 octet and usually set to 000)
16	Download Reason	0
17	SV Type	Not present if LSMS or SOA does not support the SV Type as shown in this example If it were present the value would be as defined in the NPB Data Model
	Optional Data parameters (e g , Alternative SPID, Alt-Billing ID, SMS URI) within the Optional Data Field are included/excluded based on a combination of the region's support for a specific parameter AND the requesting Service Provider's NPAC Customer profile settings at the time of BDD file generation The order of the included parameters is based on the latest version of the LNP XML schema that is available on the NPAC website (www npac com, under the software releases section)	

EXPLANATION OF THE FIELDS IN THE BLOCK DOWNLOAD FILE		
Field Number	**Field Name**	**Value in Example**
18+	Last Activity Timestamp	19960916152337 123 (yyyymmddhhmmss fff) Not present if LSMS or SOA does not support the Last Activity TS as shown in this example If it were present the value would be in Timestamp format (and include milliseconds)

Table E–6 -- Explanation of the Fields in the Block Download File

Notifications Download File

The Notification download file contains records for notifications as they are defined in the IIS Each record contains required and optional attributes and data is logged at the time of notification generation based on the reason the notification was generated as well as NPAC Customer profile settings The inclusion of TN/TN Range/NPA-NXX-X in respective notifications is not dependent on the NPAC Customer settings for Subscription Version TN Attribute Flag and Number Pool Block NPA-NXX-X Attribute Flag indicators

The Notifications download file example (Figure E- 8 – Notification Download File Example, below) contains two records in the file, individual fields are pipe delimited, with a carriage return (CR) after each Notification record The breaks in the lines and the parenthesized comments are solely for ease of reading and understanding

The "Value in Example" column in Table E-7 directly correlates to the values for the hypothetical Notification in the download file example, as seen in Figure E-8

The file name for the Notifications download file will be in the format:

Notifications.DD-MM-YYYYHHMMSS.DD-MM-YYYYHHMMSS.DD-MM-YYYYHHMMSS (The Notifications portion is the literal string " Notifications")

The first timestamp in the filename is the time the download begins The second and third timestamps are the beginning and ending time ranges respectively

The Notifications file given in the example would be named:

Notifications 15-10-2004081122 12-10-2004080000 13-10-2004133022

The file contents for the Notifications download file will be specific for the following indicators, based on the system type (SOA or LSMS) that is requesting the BDD File If support is TRUE, it will include pipes with the supplied value or blank (if no value was specified) If support is FALSE, it will NOT contain empty pipes as placeholders::

1 SOA supports SV Type
2 SOA supports Optional Data attributes and associated parameters

In the download file each notification can be identified by the combination of the Notification ID and Object ID fields LNP specific notifications are defined with a unique Notification ID in the GDMO however some notifications sent across the interface are CMIP primitives and do not have unique Notification IDs In order to uniquely identify these notifications in the download file, the original CMIP primitive Notification ID has been augmented with a 1000-series number to create a unique Notification ID/Object ID combination For example, the subscriptionVersionNPAC-ObjectCreation notification is a CMIP primitive notification that uses a Notification ID of (6) and Object ID of (21) across the interface At the same time the LNP specific notification, subscriptionVersionDonorSP-CustomerDisconnectDate as defined in the GDMO uses the same Notification ID and Object ID In order to uniquely identify the subscriptionVersionNPAC-ObjectCreation notification for the download file we have augmented the Notification ID to a 1000-series number of, (1006) The Object ID remains the same (21) The affected notifications are:

1 SubscriptionVersionNPAC-ObjectCreation (Notification ID 1006, Object ID 21)
2 SubscriptionVersionNPAC-attributeValueChange (Notification ID 1001, Object ID 21)
3 SubscriptionAudit-objectCreation (Notification ID 1006, Object ID 19)
4 Subscription Audit-objectDeletion (Notification ID 1007, Object ID 19)
5 NumberPoolBlock-objectCreation (Notification ID 1006, Object ID 30)
6 NumberPoolBlock-attributeValueChange (Notification ID 1001, Object ID 30)

Data for the following attributes are included if the attribute is supported at the time of BDD file generation If the Service Provider supports that attribute at the time of BDD file generation the attribute is included with values If the Service Provider does not support that attribute at the time of BDD file generation the attribute *is not included (no empty pipe placeholder)*

1 WSMSC DPC
2 WSMSC SSN
3 SV Type
4 Optional Data (with applicable parameters within this attribute)

```
19960101155555|1111|0|1|18|||1|0|1|1234|303123|20040915000000|0|20040831173545(CR) (Notification 1)
19960101155555|1111|0|1|18|||1|0|1|1235|303242|20040915000000|0|20040831173549(CR)  (Notification 2)
```

Figure E–7 - Notification Download File

The format for each potential notification type is provided in the following table

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
SOA Notifications		
subscriptionVersionCancellationAcknowledgeRequest		
1	Creation TimeStamp	The time the notification was created For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	1003
3	System Type (SOA=0, LSMS=1)	0
4	Notification ID	4
5	Object ID	21

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
6	Version TN	3031231000
7	Version ID	1234567899
subscriptionVersionRangeCancellationAcknowledgeRequest (* if a consecutive list)		
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	0001
3	System Type	0
4	Notification ID	18
5	Object ID	14
6	Range Type Format (consecutive list=1, non-consecutive list =2)	1
7	Starting Version TN	3031231000
8	Ending Version TN	3031232000
9	Starting Version ID	1200000001
10	Ending Version ID	1200001002
subscriptionVersionRangeCancellationAcknowledgeRequest (* if not a consecutive list)		
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
2	Service Provider ID	0001
3	System Type	0
4	Notification ID	18
5	Object ID	14
6	Range Type Format	2
7	Starting Version TN	3031231000
8	Ending Version TN	3031231009
9	Variable Field Length	Indicates the number of dynamic values for the following field (e g 10)
10	Version ID	1230000001
11	Version ID	1230000004
12	Version ID	1230000006
13	Version ID "n"	1230000009
subscriptionVersionDonorSP-CustomerDisconnectDate		
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	0001
3	System Type	0
4	Notification ID	6
5	Object ID	21

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
6	Customer Disconnect Date	20050530230000
7	Effective Release Date	20050530230000
8	Version TN	3031231000
9	Version ID	1234567899
subscriptionVersionRangeDonorSP-CustomerDisconnectDate (* if a consecutive list)		
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	0001
3	System Type	0
4	Notification ID	17
5	Object ID	14
6	Customer Disconnect Date	20050530230000
7	Effective Release Date	20050530230000
8	Range Type Format	1
9	Starting Version TN	3032201000
10	Ending Version TN	3032201009
11	Starting Version ID	1234000000
12	Ending Version ID	1234000008
subscriptionVersionRangeDonorSP-CustomerDisconnectDate (* if not a consecutive list)		

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	0001
3	System Type	0
4	Notification ID	17
5	Object ID	14
6	Customer Disconnect Date	20050530230000
7	Effective Release Date	20050530230000
8	Range Type Format	2
9	Starting Version TN	1232201000
10	Ending Version TN	1232201010
11	Variable Field Length	Indicates the number of dynamic values for the following field (e g 11)
12	Version ID	1234000099
13	Version ID	1234000103
14	… Version ID "n"	1234000119
subscriptionVersionNewSP-CreateRequest		

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	0001
3	System Type	0
4	Notification ID	9
5	Object ID	21
6	Old Service Provider ID	1003
7	Old Service Provider Due Date	20050530230000
8	Old Service Provider Authorization	0
9	Old Service Provider Authorization Time Stamp	20050520125032
10	Subscription Status Change Cause Code	50
11	Subscription Timer Type	0
12	Subscription Business Type	1
13	Version TN	1232201999
14	Version ID	1234000099
subscriptionVersionRangeNewSP-CreateRequest (* if a consecutive list)		

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	0001
3	System Type	0
4	Notification ID	19
5	Object ID	14
6	Old Service Provider ID	0002
7	Old Service Provider Due Date	20050530230000
8	Old Service Provider Authorization	0
9	Service Provider Authorization Time Stamp	20050520123045
10	Subscription Status Change Cause Code	50
11	Subscription Timer Type	0
12	Subscription Business Type	1
13	Range Type Format	1
14	Starting Version TN	3032201999
15	Ending Version TN	3032202012
16	Starting Version ID	1234000000
17	Ending Version ID	1234000013
subscriptionVersionRangeNewSP-CreateRequest (* if not a consecutive list)		

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	0001
3	System Type	0
4	Notification ID	19
5	Object ID	14
6	Old Service Provider ID	0234
7	Old Service Provider Due Date	20050530230000
8	Old Service Provider Authorization	0
9	Service Provider Authorization Time Stamp	200505220231632
10	Subscription Status Change Cause Code	50
11	Subscription Timer Type	0
12	Subscription Business Type	1
13	Range Type Format	2
14	Starting Version TN	3033301600
15	Ending Version TN	3033301699
16	Variable Field Length	Indicates the number of dynamic values for the following field (e g 100)
17	Version ID	2340000000

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
18	Version ID	2340000016
19	… Version ID "n"	2340000023
subscriptionVersionOldSP-ConcurrenceRequest		
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	0001
3	System Type	0
4	Notification ID	10
5	Object ID	21
6	New Current Service Provider ID	2003
7	Service Provider Due Date	20050530230000
8	New Service Provider Creation Time Stamp	20050518231625
9	Subscription Timer Type	0
10	Subscription Business Type	1
11	Version TN	3033301000
12	Version ID	1234560000
subscriptionVersionRangeOldSP-ConcurrenceRequest (* if a consecutive list)		

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	0001
3	System Type	0
4	Notification ID	20
5	Object ID	14
6	New Current Service Provider ID	2003
7	Service Provider Due Date	20050530230000
8	New Service Provider Creation Time Stamp	20050518231625
9	Subscription Timer Type	0
10	Subscription Business Type	1
11	Range Type Format	1
12	Starting Version TN	3033301000
13	Ending Version TN	3033301009
14	Starting Version ID	1000000001
15	Ending Version ID	1000000010
subscriptionVersionRangeOldSP-ConcurrenceRequest (* if not a consecutive list)		

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	0001
3	System Type	0
4	Notification ID	20
5	Object ID	14
6	New Current Service Provider ID	2003
7	Service Provider Due Date	20050530230000
8	New Service Provider Creation Time Stamp	20050518231625
9	Subscription Timer Type	0
10	Subscription Business Type	1
11	Range Type Format	2
12	Starting Version TN	3033300000
13	Ending Version TN	3033300099
14	Variable Field Length	Indicates the number of dynamic values for the following field (e g 100)
15	Version ID	1000000001
16	Version ID	1000000009
17	… Version ID "n"	1000001011
subscriptionVersionStatusAttributeValueChange		

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	0001
3	System Type	0
4	Notification ID	11
5	Object ID	21
6	Subscription Version Status	1
7	Subscription Version Status Change Cause Code	0
8	Version TN	3033301290
9	Version ID	1234500009
10	Variable Field Length	Indicates the number of dynamic values for the following field (e g 3) Note: If there aren't any Service Providers on the Failed list then the last field will be the VersionID
11	(failed list) Service Provider ID – Service Provider Name	2003-TelCo
12	(failed list) Service Provider ID – Service Provider Name	2910-Tel S
13	…	1034-Tel M
subscriptionVersionRangeStatusAttributeValueChange (* if a consecutive list)		

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	1001
3	System Type	0
4	Notification ID	14
5	Object ID	14
6	Subscription Version Status	1
7	Subscription Version Status Change Cause Code	0
8	Range Type Format	1
9	Starting Version TN	3034401000
10	Ending Version TN	3034401001
11	Starting Version ID	4420000097
12	Ending Version ID	4420000098
13	Variable Field Length	Indicates the number of dynamic values for the following field (e g 2) Note: If there aren't any Service Providers on the Failed list then the last field will be the Ending VersionID
14	(failed list) Service Provider ID – Service Provider Name	2003-TelCo
15	(failed list) Service Provider ID – Service Provider Name	2910-Tel S
subscriptionVersionRangeStatusAttributeValueChange (* if not a consecutive list)		

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	1001
3	System Type	0
4	Notification ID	14
5	Object ID	14
6	Subscription Version Status	1
7	Subscription Version Status Change Cause Code	0
8	Range Type Format	2
9	Starting Version TN	3034401012
10	Ending Version TN	3034401019
11	Variable Field Length	Indicates the number of dynamic values for the following field (e g 8)
12	Version ID	1000050090
13	Version ID	1000050096
14	Version ID	1000050099
15	… Version ID "n"	1000005100
16	Variable Field Length	Indicates the number of dynamic values for the following field (e g 3) Note: If there aren't any Service Providers on the Failed list then the last field will be the VersionID "n"

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
17	(failed list) Service Provider ID – Service Provider Name	2003-TelCo
18	(failed list) Service Provider ID – Service Provider Name	2910-Tel S
19	…	1034-Tel M
subscriptionVersionNPAC-ObjectCreation		
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	1001
3	System Type	0
4	Notification ID	1006
5	Object ID	21
6	New Service Provider Creation Time Stamp	20050518231625
7	New Service Provider Due Date	20050530230000
8	Old Service Provider Authorization Time Stamp	
9	Old Service Provider Due Date	
10	Old Service Provider Authorization	
11	New Current Service Provider ID	1001
12	Old Service Provider ID	1003
13	Conflict Time Stamp	

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
14	Status Change Cause Code	
15	Subscription Version Status	1
16	Timer Type	0 This attribute (pipes) is included if the Service Provider supports both Timer Type and Notification BDD Timer Type Business Hour attributes at the time of notification BDD generation If the Service Provider does not support, the pipes are not included in the notification BDD
17	Business Hours	0 This attribute (pipes) is included if the Service Provider supports both Business Hours and Notification BDD Timer Type Business Hour attributes at the time of notification BDD generation If the Service Provider does not support, the pipes are not included in the notification BDD
18	New SP Medium Timer Indicator	0 Not present if SOA does not support the Medium Timers Support Indicator at the time of notification BDD generation as shown in this example If it were present the value would be as defined in the SV Data Model The value that will be included in the Object Creation Notification is based on the SP that first sent up the request
19	Old SP Medium Timer Indicator	0 Not present if SOA does not support the Medium Timers Support Indicator at the time of notification BDD generation as shown in this example If it were present the value would be as defined in the SV Data Model The value that will be included in the Object Creation Notification is based on the SP that first sent up the request
20	Version TN	3034401000
21	Version ID	1239999909
subscriptionVersionRangeObjectCreation (* if a consecutive list)		

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	1003
3	System Type	0
4	Notification ID	16
5	Object ID	14
6	New Service Provider Creation Time Stamp	20050518231625
7	New Service Provider Due Date	20050530230000
8	Old Service Provider Authorization Time Stamp	
9	Old Service Provider Due Date	
10	Old Service Provider Authorization	
11	New Current Service Provider ID	0001
12	Old Service Provider ID	1003
13	Conflict Time Stamp	
14	Status Change Cause Code	
15	Subscription Version Status	1

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
16	Timer Type	0 This attribute (pipes) is included if the Service Provider supports both Timer Type and Notification BDD Timer Type Business Hour attributes at the time of notification BDD generation If the Service Provider does not support, the pipes are not included in the notification BDD
17	Business Hours	0 This attribute (pipes) is included if the Service Provider supports both Business Hours and Notification BDD Timer Type Business Hour attributes at the time of notification BDD generation If the Service Provider does not support, the pipes are not included in the notification BDD
18	New SP Medium Timer Indicator	0 Not present if SOA does not support the Medium Timers Support Indicator at the time of notification BDD generation as shown in this example If it were present the value would be as defined in the SV Data Model The value that will be included in the Object Creation Notification is based on the SP that first sent up the request
19	Old SP Medium Timer Indicator	0 Not present if SOA does not support the Medium Timers Support Indicator at the time of notification BDD generation as shown in this example If it were present the value would be as defined in the SV Data Model The value that will be included in the Object Creation Notification is based on the SP that first sent up the request
20	Range Type Format	1
21	Starting Version TN	3034401000
22	Ending Version TN	3034402000
23	Starting Version ID	1234500001
24	Ending Version ID	1234501002
subscriptionVersionRangeObjectCreation (* if not a consecutive list)		

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	1003
3	System Type	0
4	Notification ID	16
5	Object ID	14
6	New Service Provider Creation Time Stamp	20050518231625
7	New Service Provider Due Date	20050530230000
8	Old Service Provider Authorization Time Stamp	
9	Old Service Provider Due Date	
10	Old Service Provider Authorization	
11	New Current Service Provider	0001
12	Old Service Provider ID	1003
13	Conflict Time Stamp	
14	Status Change Cause Code	
15	Subscription Version Status	1

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
16	Timer Type	0 This attribute (pipes) is included if the Service Provider supports both Timer Type and Notification BDD Timer Type Business Hour attributes at the time of notification BDD generation If the Service Provider does not support, the pipes are not included in the notification BDD
17	Business Hours	0 This attribute (pipes) is included if the Service Provider supports both Business Hours and Notification BDD Timer Type Business Hour attributes at the time of notification BDD generation If the Service Provider does not support, the pipes are not included in the notification BDD
18	New SP Medium Timer Indicator	0 Not present if SOA does not support the Medium Timers Support Indicator at the time of notification BDD generation as shown in this example If it were present the value would be as defined in the SV Data Model The value that will be included in the Object Creation Notification is based on the SP that first sent up the request
19	Old SP Medium Timer Indicator	0 Not present if SOA does not support the Medium Timers Support Indicator at the time of notification BDD generation as shown in this example If it were present the value would be as defined in the SV Data Model The value that will be included in the Object Creation Notification is based on the SP that first sent up the request
20	Range Type Format	2
21	Starting Version TN	3034401000
22	Ending Version TN	3034401097
23	Variable Field Length	Indicates the number of dynamic values for the following field (e g 98)
24	Version ID	2050505050
25	Version ID	2050505059

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
26	… Version ID "n"	2050507019
subscriptionVersionNPAC-attributeValueChange		
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	1003
3	System Type	0
4	Notification ID	1001
5	Object ID	21
6	New Service Provider Creation Time Stamp	20050518231625
7	New Service Provider Due Date	20050530230000
8	Old Service Provider Authorization Time Stamp	
9	Old Service Provider Due Date	
10	Old Service Provider Authorization	
11	Conflict Time Stamp	
12	Timer Type	This attribute (pipes) is included if the Service Provider supports both Medium Timers and Timer Type attributes at the time of notification BDD generation If the Service Provider does not support, the pipes are not included in the notification BDD

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
13	Business Hours	This attribute (pipes) is included if the Service Provider supports both Medium Timers and Business Hours attributes at the time of notification BDD generation If the Service Provider does not support, the pipes are not included in the notification BDD
14	New SP Medium Timer Indicator	0 Not present if SOA does not support the Medium Timers Support Indicator at the time of notification BDD generation as shown in this example If it were present the value would be as defined in the SV Requirements and Data Model
15	Old SP Medium Timer Indicator	0 Not present if SOA does not support the Medium Timers Support Indicator at the time of notification BDD generation as shown in this example If it were present the value would be as defined in the SV Requirements and Data Model
	Fields 16 through 30 are included/excluded based on S-3 00C notification priority setting at the time of BDD file generation	
16	LRN	1234567890
17	CLASS DPC	123123123 (This value is 3 octets)
18	CLASS SSN	123 (This value is 1 octet and usually set to 000)
19	LIDB DPC	123123123 (This value is 3 octets)
20	LIDB SSN	123 (This value is 1 octet and usually set to 000)
21	CNAM DPC	123123123 (This value is 3 octets)
22	CNAM SSN	123 (This value is 1 octet and usually set to 000)
23	ISVM DPC	123123123 (This value is 3 octets)
24	ISVM SSN	123 (This value is 1 octet and usually set to 000)
25	WSMSC DPC	Not present if LSMS or SOA does not support the WSMSC DPC as shown in this example If it were present the value would be in the same format as other DPC data

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
26	WSMSC SSN	Not present if LSMS or SOA does not support the WSMSC SSN as shown in this example If it were present the value would be in the same format as other SSN data
27	Billing Id	0001
28	End User Location Value	123456789012
29	End User Location Type	12
30	SV Type	Not present if LSMS or SOA does not support the SV Type as shown in this example If it were present the value would be as defined in the SV Data Model
31	Version TN	3034401000
32	Version ID	1234567890
	Optional Data parameters (e g , Alternative SPID, Alt-Billing ID, SMS URI) within the Optional Data Field are included/excluded based on a combination of the region's support for a specific parameter AND the requesting Service Provider's NPAC Customer profile settings at the time of BDD file generation The order of the included parameters is based on the latest version of the applicable LNP XML schema that is available on the NPAC website (www npac com, under the software releases section)	
subscriptionVersionRangeAttributeValueChange (* if a consecutive list)		
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	1003
3	System Type	0
4	Notification ID	15
5	Object ID	14

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
6	New Service Provider Creation Time Stamp	20050518231625
7	New Service Provider Due Date	20050530230000
8	Old Service Provider Authorization Time Stamp	
9	Old Service Provider Due Date	
10	Old Service Provider Authorization	
11	Conflict Time Stamp	
12	Timer Type	0 This attribute (pipes) is included if the Service Provider supports both Medium Timers and Timer Type attributes at the time of notification BDD generation If the Service Provider does not support, the pipes are not included in the notification BDD
13	Business Hours	0 This attribute (pipes) is included if the Service Provider supports both Medium Timers and Business Hours attributes at the time of notification BDD generation If the Service Provider does not support, the pipes are not included in the notification BDD
14	New SP Medium Timer Indicator	0 Not present if SOA does not support the Medium Timers Support Indicator at the time of notification BDD generation as shown in this example If it were present the value would be as defined in the SV Requirements and Data Model
15	Old SP Medium Timer Indicator	0 Not present if SOA does not support the Medium Timers Support Indicator at the time of notification BDD generation as shown in this example If it were present the value would be as defined in the SV Requirements and Data Model
	Fields 16 through 30 are included/excluded based on S-3 00C notification priority setting at the time of BDD file generation	

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
16	LRN	1234567890
17	CLASS DPC	123123123 (This value is 3 octets)
18	CLASS SSN	123 (This value is 1 octet and usually set to 000)
19	LIDB DPC	123123123 (This value is 3 octets)
20	LIDB SSN	123 (This value is 1 octet and usually set to 000)
21	CNAM DPC	123123123 (This value is 3 octets)
22	CNAM SSN	123 (This value is 1 octet and usually set to 000)
23	ISVM DPC	123123123 (This value is 3 octets)
24	ISVM SSN	123 (This value is 1 octet and usually set to 000)
25	WSMSC DPC	Not present if LSMS or SOA does not support the WSMSC DPC as shown in this example If it were present the value would be in the same format as other DPC data
26	WSMSC SSN	Not present if LSMS or SOA does not support the WSMSC SSN as shown in this example If it were present the value would be in the same format as other SSN data
27	Billing Id	0001
28	End User Location Value	123456789012
29	End User Location Type	12
30	SV Type	Not present if LSMS or SOA does not support the SV Type as shown in this example If it were present the value would be as defined in the SV Data Model
31	Range Type Format	1
32	Starting Version TN	3034401000
33	Ending Version TN	3034401009
34	Starting Version ID	1000000000

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
35	Ending Version ID	1000000009
	Optional Data parameters (e g , Alternative SPID, Alt-Billing ID, SMS URI) within the Optional Data Field are included/excluded based on a combination of the region's support for a specific parameter AND the requesting Service Provider's NPAC Customer profile settings at the time of BDD file generation The order of the included parameters is based on the latest version of the applicable LNP XML schema that is available on the NPAC website (www npac com, under the software releases section)	
subscriptionVersionRangeAttributeValueChange (* if not a consecutive list)		
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	1003
3	System Type	0
4	Notification ID	15
5	Object ID	14
6	New Service Provider Creation Time Stamp	20050518231625
7	New Service Provider Due Date	20050530230000
8	Old Service Provider Authorization Time Stamp	
9	Old Service Provider Due Date	
10	Old Service Provider Authorization	
11	Conflict Time Stamp	

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
12	Timer Type	0 This attribute (pipes) is included if the Service Provider supports both Medium Timers and Timer Type attributes at the time of notification BDD generation If the Service Provider does not support, the pipes are not included in the notification BDD
13	Business Hours	0 This attribute (pipes) is included if the Service Provider supports both Medium Timers and Business Hours attributes at the time of notification BDD generation If the Service Provider does not support, the pipes are not included in the notification BDD
14	New SP Medium Timer Indicator	0 Not present if SOA does not support the Medium Timers Support Indicator at the time of notification BDD generation as shown in this example If it were present the value would be as defined in the SV Requirements and Data Model
15	Old SP Medium Timer Indicator	0 Not present if SOA does not support the Medium Timers Support Indicator at the time of notification BDD generation as shown in this example If it were present the value would be as defined in the SV Requirements and Data Model
	Fields 16 through 30 are included/excluded based on S-3 00C notification priority setting at the time of BDD file generation	
16	LRN	1234567890
17	CLASS DPC	123123123 (This value is 3 octets)
18	CLASS SSN	123 (This value is 1 octet and usually set to 000)
19	LIDB DPC	123123123 (This value is 3 octets)
20	LIDB SSN	123 (This value is 1 octet and usually set to 000)
21	CNAM DPC	123123123 (This value is 3 octets)
22	CNAM SSN	123 (This value is 1 octet and usually set to 000)

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
23	ISVM DPC	123123123 (This value is 3 octets)
24	ISVM SSN	123 (This value is 1 octet and usually set to 000)
25	WSMSC DPC	Not present if LSMS or SOA does not support the WSMSC DPC as shown in this example If it were present the value would be in the same format as other DPC data
26	WSMSC SSN	Not present if LSMS or SOA does not support the WSMSC SSN as shown in this example If it were present the value would be in the same format as other SSN data
27	Billing Id	0001
28	End User Location Value	123456789012
29	End User Location Type	12
30	SV Type	Not present if LSMS or SOA does not support the SV Type as shown in this example If it were present the value would be as defined in the SV Data Model
31	Range Type Format	2
32	Starting Version TN	3034401000
33	Ending Version TN	3034401009
34	Variable Field Length	Indicates the number of dynamic values for the following field (e g 10)
35	Version ID	1000000000
36	Version ID	1000000013
37	… Version ID "n"	1000000016
	Optional Data parameters (e g , Alternative SPID, Alt-Billing ID, SMS URI) within the Optional Data Field are included/excluded based on a combination of the region's support for a specific parameter AND the requesting Service Provider's NPAC Customer profile settings at the time of BDD file generation The order of the included parameters is based on the latest version of the applicable LNP XML schema that is available on the NPAC website (www npac com, under the software releases section)	

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
subscriptionAudit-DiscrepancyRpt		
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	1003
3	System Type	0
4	Notification ID	2
5	Object ID	19
6	Service Provider ID	0001
7	Audit Failure Reason	2
8	Audit Discrepancy TN	3034401212
9	Version ID	1000000009
subscriptionAuditResults		
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	1003
3	System Type	0
4	Notification ID	3
5	Object ID	19

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
6	Audit Results Status	2
7	Number of Discrepancies	1
8	Time of Completion	20050521121419
9	Variable Field Length	Indicates the number of dynamic values for the following field (e g 3) Note: If there aren't any Service Providers on the Failed list then the last field will be Time of Completion
10	Failed Service Provider ID – Failed Service Provider Name	2091-TelX
11	Failed Service Provider ID – Failed Service Provider Name	3124-TelN
12	Failed Service Provider ID – Failed Service Provider Name	3092-TelY
subscriptionAudit-objectCreation		
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	1003
3	System Type	0
4	Notification ID	1006
5	Object ID	19
6	Audit ID	5303
subscription Audit-objectDeletion		

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	1003
3	System Type	0
4	Notification ID	1007
5	Object ID	19
6	Audit ID	5049
lnpNPAC-SMS-Operational-Information		
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	0001
3	System Type	0
4	Notification ID	1
5	Object ID	12
6	Maintenance Start Time	20050530020000
7	Maintenance End Time	20050530060000
8	NPAC Contact Number	8883321000
9	Additional Downtime Information	(graphic string 255)

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
subscriptionVersionNewNPA-NXX		
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	0001
3	System Type	0
4	Notification ID	8
5	Object ID	(21/12) * If this notification is generated by a subscription, then object ID= 21 If this notification is generated by a number pool block, then object ID=12
6	NPA-NXX ID	2853
7	NPA-NXX	303440
8	NPA-NXX Effective Time Stamp	19960101155555
9	Service Provider ID	1003
subscriptionVersionOldSPFinalConcurrenceWindowExpiration		
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	0001
3	System Type	0

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
4	Notification ID	12
5	Object ID	21
6	Subscription Timer Type	0
7	Subscription Business Type	1
8	Version TN	3034401000
9	Version ID	1234567890
subscriptionVersionRangeOldSPFinalConcurrenceWindowExpiration (* if a consecutive list)		
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	1003
3	System Type	0
4	Notification ID	21
5	Object ID	14
6	Subscription Timer Type	0
7	Subscription Business Type	1
8	Range Type Format	1
9	Starting Version TN	3034401000
10	Ending Version TN	3034401009
11	Starting Version ID	1234567000
12	Ending Version ID	1234567010

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
subscriptionVersionRangeOldSPFinalConcurrenceWindowExpiration (* if not a consecutive list)		
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	1003
3	System Type	0
4	Notification ID	21
5	Object ID	14
6	Subscription Timer Type	0
7	Subscription Business Type	1
8	Range Type Format	2
9	Starting Version TN	3034401000
10	Ending Version TN	3034401009
11	Variable Field Length	Indicates the number of dynamic values for the following field (e g 10)
12	Version ID	1230000000
13	Version ID	1230000012
14	Version ID	1230000019
15	… Version ID "n"	1230000024
numberPoolBlock-objectCreation		

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	1003
3	System Type	0
4	Notification ID	1006
5	Object ID	30
6	Number Pool Block Creation Time Stamp	20050501122000
7	Number Pool Block ID	4421
8	Number Pool Block NPA-NXX-X	3033005
9	Block Holder SPID	0001
10	SOA Origination	1
11	LRN	7193000000
12	CLASS DPC	123123123 (This value is 3 octets)
13	CLASS SSN	123 (This value is 1 octet and usually set to 000)
14	LIDB DPC	123123123 (This value is 3 octets)
15	LIDB SSN	123 (This value is 1 octet and usually set to 000)
16	CNAM DPC	123123123 (This value is 3 octets)
17	CNAM SSN	123 (This value is 1 octet and usually set to 000)
18	ISVM DPC	123123123 (This value is 3 octets)

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
19	ISVM SSN	123 (This value is 1 octet and usually set to 000)
20	WSMSC DPC	123123123 (This value is 3 octets)
21	WSMSC SSN	123 (This value is 1 octet and usually set to 000)
22	Number Pool Block Status	1
23	SV Type	0 This attribute (pipes) is included if the Service Provider supports SV Type at the time of notification BDD generation If the Service Provider does not support SV Type at the time of notification, the pipes are not included in the notification BDD Data for this attribute is included if the attribute was included in the original notification which depends on whether or not the Service Provider supported SV Type at the time of notification generation
	Optional Data parameters (e g , Alternative SPID, Alt-Billing ID, SMS URI) within the Optional Data Field are included/excluded based on a combination of the region's support for a specific parameter AND the requesting Service Provider's NPAC Customer profile settings at the time of BDD file generation The order of the included parameters is based on the latest version of the applicable LNP XML schema that is available on the NPAC website (www npac com, under the software releases section)	
numberPoolBlock-attributeValueChange		
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	1003
3	System Type	0
4	Notification ID	1001
5	Object ID	30

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
6	Number Pool Block ID	1290
7	Number Pool Block NPA-NXX-X	3033006
8	SOA Origination	1
9	LRN	7193000000
10	CLASS DPC	123123123 (This value is 3 octets)
11	CLASS SSN	123 (This value is 1 octet and usually set to 000)
12	LIDB DPC	123123123 (This value is 3 octets)
13	LIDB SSN	123 (This value is 1 octet and usually set to 000)
14	CNAM DPC	123123123 (This value is 3 octets)
15	CNAM SSN	123 (This value is 1 octet and usually set to 000)
16	ISVM DPC	123123123 (This value is 3 octets)
17	ISVM SSN	123 (This value is 1 octet and usually set to 000)
18	WSMSC DPC	123123123 (This value is 3 octets)
19	WSMSC SSN	123 (This value is 1 octet and usually set to 000)
20	SV Type	0 This attribute (pipes) is included if the Service Provider supports SV Type at the time of notification BDD generation If the Service Provider does not support SV Type at the time of notification, the pipes are not included in the notification BDD Data for this attribute is included if the attribute was included in the original notification which depends on whether or not the Service Provider supported SV Type at the time of notification generation

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
	Optional Data parameters (e g , Alternative SPID, Alt-Billing ID, SMS URI) within the Optional Data Field are included/excluded based on a combination of the region's support for a specific parameter AND the requesting Service Provider's NPAC Customer profile settings at the time of BDD file generation The order of the included parameters is based on the latest version of the applicable LNP XML schema that is available on the NPAC website (www npac com, under the software releases section)	
numberPoolBlockStatusAttributeValueChange		
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	1003
3	System Type	0
4	Notification ID	13
5	Object ID	30
6	Number Pool Block ID	3240
7	Number Pool Block NPA-NXX-X	3033006
8	Block Status	4
9	Variable Field Length	Indicates the number of dynamic values for the following field (e g 3) Note: If there aren't any Service Providers on the Failed list then the last field will be the Block Status
10	(failed list) Service Provider ID – Service Provider Name	2003-TelCo
11	(failed list) Service Provider ID – Service Provider Name	2910-Tel S
12	…	1034-Tel M

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
subscriptionVersionNewSP-FinalCreateWindowExpiration		
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	0001
3	System Type	0
4	Notification ID	23
5	Object ID	21
6	New Current Service Provider ID	1234
7	Old Service Provider ID	2001
8	Old Service Provider Due Date	20050530230000
9	Old SP Authorization	0
10	Old SP Authorization Time Stamp	20050520125032
11	Status Change Cause Code	50
12	Subscription Timer Type	0
13	Subscription Business Type	1
14	Version TN	1232201999
15	Version ID	1234567890
subscriptionVersionRangeNewSP-FinalCreateWindow (* if a consecutive list)		

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	1003
3	System Type	0
4	Notification ID	22
5	Object ID	14
6	New Current Service Provider ID	1234
7	Old Service Provider ID	2001
8	Old Service Provider Due Date	20050530230000
9	Old Service Provider Authorization	0
10	Old Service Provider Authorization Time Stamp	20050520123045
11	Status Change Cause Code	50
12	Subscription Timer Type	0
13	Subscription Business Type	1
14	Range Type Format	1
15	Starting Version TN	3034401000
16	Ending Version TN	3034401009
17	Starting Version ID	1234567000
18	Ending Version ID	1234567010

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
subscriptionVersionRangeNewSP-FinalCreateWindowExpiration (* if not a consecutive list)		
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	1003
3	System Type	0
4	Notification ID	22
5	Object ID	14
6	New Current Service Provider ID	1234
7	Old Service Provider ID	2001
8	Old Service Provider Due Date	20050530230000
9	Old Service Provider Authorization	0
10	Old Service Provider Authorization TimeStamp	20050530231632
11	Status Change Cause Code	50
12	Subscription Timer Type	0
13	Subscription Business Type	1
14	Range Type Format	2
15	Starting Version TN	3034401000
16	Ending Version TN	3034401009
17	Variable Field Length	Indicates the number of dynamic values for the following field (e g 10)

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
18	Version ID	2340000000
19	Version ID	2340000016
20	… Version ID "n"	2340000023
LSMS Notifications		
lnpNPAC-SMS-Operational-Information		
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	0001
3	System Type	1
4	Notification ID	1
5	Object ID	12
6	Maintenance Start Time	20050530020000
7	Maintenance End Time	20050530060000
8	NPAC Contact Number	8883321000
9	Additional Download Time Information	(graphic string 255)
subscriptionVersionNewNPA-NXX		

EXPLANATION OF THE POTENTIAL NOTIFICATION FIELDS IN THE NOTIFICATIONS DOWNLOAD FILE		
Notification		
Field Number	**Field Name**	**Sample Value**
1	Creation TimeStamp	For example: 19960101155555 If the SOA supports the Last Activity Timestamp in the BDD, then the Message Origination TimeStamp will be used in place of the Creation TimeStamp The Creation TimeStamp uses the format yyyymmddhhmmss, and the Message Origination TimeStamp uses the format yyyymmddhhmmss fff
2	Service Provider ID	1003
3	System Type	1
4	Notification ID	8
5	Object ID	(21/12) (If this notification is generated by a subscription version, then Object ID=21 If this notification is generated by a pooled block, then Object ID=12
6	NPA-NXX ID	1239
7	NPA-NXX	303400
8	NPA-NXX Effective Time Stamp	050501120019
9	Service Provider ID	0001

Table E–7 -- Explanation of the Fields in the Notification Download File

SIC-SMURF NPA-NXX Download File

The SIC-SMURF NPA-NXX download file is used as input to the SPID migration update process in the NPAC SMS and all SOAs/LSMSs, to convert NPA-NXX data from the Old SPID to the New SPID This file contains individual fields that are pipe delimited, with a carriage return (CR) after each SIC-SMURF NPA-NXX record

The file name for the SIC-SMURF NPA-NXX download file will be in the format:

SIC-SMURF-NPANXX OldSPID NewSPID DD-MM-YYYYHHMMSS (The SIC-SMURF-NPANXX portion is the literal string "SIC-SMURF-NPANXX" The OldSPID is the four digit ID of the Old Service Provider The NewSPID is the four digit ID of the New Service Provider)

The SIC-SMURF NPA-NXX file given in the example would be named:

SIC-SMURF-NPANXX 0001 0002 25-12-1996081122

EXPLANATION OF THE FIELDS IN THE SIC-SMURF NPA-NXX DOWNLOAD FILE		
Field Number	**Field Name**	**Value in Example**
1	Old Service Provider Id	0001
2	New Service Provider Id	0002
3	NPA-NXX Value	312382

Table E–8 -- Explanation of the Fields in the NPA-NXX SMURF File

Example File:

0001|0002|312382(CR)	(end of NPA-NXX 1)
0001|0002|312383(CR)	(end of NPA-NXX 2)
0001|0002|312386(CR)	(end of NPA-NXX 3)
0001|0002|312382(CR)	(end of NPA-NXX 4)
0001|0002|312392(CR)	(end of NPA-NXX 5)

SIC-SMURF LRN Download File

The SIC-SMURF LRN download file is used as input to the SPID migration update process in the NPAC SMS and all SOAs/LSMSs, to convert LRN, Block (SOA/LSMS optional), Subscription Version, and scheduled event for Block (NPAC only) data from the Old SPID to the New SPID This file contains individual fields that are pipe delimited, with a carriage return (CR) after each SIC-SMURF LRN record

The file name for the SIC-SMURF LRN download file will be in the format:

SIC-SMURF-LRN OldSPID NewSPID DD-MM-YYYYHHMMSS (The SIC-SMURF-LRN portion is the literal string "SIC-SMURF-LRN" The OldSPID is the four digit ID of the Old Service Provider The NewSPID is the four digit ID of the New Service Provider)

The SIC-SMURF-LRN file given in the example would be named:

SIC-SMURF-LRN 0001 0002 25-12-1996081122

EXPLANATION OF THE FIELDS IN THE SIC-SMURF LRN DOWNLOAD FILE		
Field Number	**Field Name**	**Value in Example**
1	Old Service Provider Id	0001
2	New Service Provider Id	0002
3	LRN Value	3123820000

Table E–9 – Explanation of the Fields in the LRN SMURF File

Example File:

0001|0002|3123820000 (CR)	(end of LRN 1)
0001|0002|3123830000 (CR)	(end of LRN 2)
0001|0002|3123860000 (CR)	(end of LRN 3)
0001|0002|3123820000 (CR)	(end of LRN 4)
0001|0002|3123920000 (CR)	(end of LRN 5)

SIC-SMURF NPA-NXX-X Download File

The SIC-SMURF NPA-NXX-X download file is used as input to the SPID migration update process in the NPAC SMS and all SOAs/LSMSs, to convert NPA-NXX-X data (SOA/LSMS optional) from the Old SPID to the New SPID This file contains individual fields that are pipe delimited, with a carriage return (CR) after each SIC-SMURF NPA-NXX-X record

The file name for the SIC-SMURF NPA-NXX-X download file will be in the format:

SIC-SMURF-NPANXXX OldSPID NewSPID DD-MM-YYYYHHMMSS (The SIC-SMURF-NPANXXX portion is the literal string "SIC-SMURF-NPANXXX" The OldSPID is the four digit ID of the Old Service Provider The NewSPID is the four digit ID of the New Service Provider)

The SIC-SMURF-NPA-NXX-X file given in the example would be named:

SIC-SMURF-NPANXXX 0001 0002 25-12-1996081122

EXPLANATION OF THE FIELDS IN THE SIC-SMURF NPA-NXX-X DOWNLOAD FILE		
Field Number	**Field Name**	**Value in Example**
1	Old Service Provider Id	0001
2	New Service Provider Id	0002
3	NPA-NXX-X Value	3123820

Table E–10 -- Explanation of the Fields in the NPA-NXX-X SMURF File

Example File:

0001|0002|3123820(CR)	(end of NPA-NXX-X 1)
0001|0002|3123824(CR)	(end of NPA-NXX-X 2)
0001|0002|3123862(CR)	(end of NPA-NXX-X 3)
0001|0002|3123868(CR)	(end of NPA-NXX-X 4)
0001|0002|3123928(CR)	(end of NPA-NXX-X 5)

Appendix F. Midwest Region Number Pooling

This section, Appendix F: Midwest Region Number Pooling is deleted in version 3 0 0 of this document with NPAC Release 3 0 0

Appendix G. Deleted Requirements

This section contains a list of assumption/constraint/requirement numbers that have been deleted over the lifetime of this document

AR3-1

AR3-2

AR3-3

AR4-1.1

AR5-1 (Duplicates R5-25)

AR6-1

AR6-2

A10-1

A10-2

A10-3

A11-1

CN1-1

R3-l

R3-2

R3-4.1 (Duplicate - refer to R4-1)

R3-4.2 (Duplicate - refer to R4-3)

R3-5 (Duplicate - refer to R4-2)

R3-6.1 (Duplicate – refer to R3-7.2)

R3-7.5

R3-7.6

R3-12 (Duplicate – refer to R5-18)

RN3-4.10

RN3-4.3

RN3-4.4

RN3-4.5

RN3-4.19

RN3-4.29

RN3-4.33

RN3-4.34

RN3-4.35

RN3-4.36

RN3-4.37

RR3-11 (Replaced with RR3-229, RR3-230, RR3-231, and RR3-232)

RR3-30 (Replaced with RR3-233, RR3-234, RR3-235, and RR3-236)

RR3-51.1

RR3-51.2

RR3-58

RR3-60

RR3-64

RR3-90

RR3-91

RR3-92

RR3-98

RR3-99

RR3-100

RR3-121

RR3-122

RR3-135

RR3-139

RR3-141.2

RR3-167

RR3-168

RR3-178

RR3-179

RR3-187

RR3-189

RR3-208 (Merged into R3-7.1)

RR3-209 (Merged into R3-7.1)

RR3-214

RR3-215

RR3-216

RR3-217

RR3-218

RR3-226

RR3-263

RR3-270

RR3-271

RR3-272

RR3-273

RR3-323

RR3-470

RR3-471

RR3-582

RR3-675

RR3-676

RR3-677

RR3-678

RR3-679

RR3-680

RR3-754

RX3-2

R4-12 (Duplicate – refer to R4-2)

R4-18.1

R4-18.2

R4-18.3

R4-19 (Duplicate - refer to R4-3)

R4-23 (Duplicate – refer to R4-5.2)

R4-30.3

R4-30.4

R4-30.5

R4-30.7

R5-1.2 – (Duplicate refer to R5-20.3, R5-30.2, R5-53), R5-54, moved refer to R5-54.2)

R5-3.7

R5-3.8

R5-3.9

R5-4 (Duplicate – refer to RN5-1)

R5-8.2 (Duplicate – refer to R5-25)

R5-17.1 (Duplicate – refer to R5-18.8 and R5-20.1)

R5-17.2 (Duplicate – refer to R5-18.8 and R5-20.1)

R5-18.3

R5-21.5 (Duplicate – refer to R5-21.1)

R5-23.4

R5-24.1 (Duplicate – refer to R5-27 and R5-28)

R5-24.2 (Duplicate – refer to R5-27 and R5-28)

R5-24.3 (Duplicate – refer to R5-27 and R5-28)

R5-27.5 (Duplicate – refer to RR5-42.1)

R5-29.2

R5-31.1

R5-31.2

R5-32 (Duplicate – refer to R5-31.3)

R5-33 (Duplicate – refer to R5-35 and R5-36)

R5-34

R5-40.2 (Duplicate – refer to R5-34)

R5-48

R5-49.1

R5-49.2

R5-54.1

R5-54.2

R5-56 (Duplicate – refer to R5-57.1)

R5-64.2

R5-64.3

R5-64.4

R5-64.5

R5-64.6

R5-64.7

R5-65.3

R5-66.1

R5-71.1 (Superseded – refer to RR5-28)

R5-71.7

RN5-9

RN5-11 (Duplicate – refer to R5-42 and R5-43)

RR5-6.3

RR5-10.4

RR5-10.5

RR5-12.2

RR5-13.1

RR5-13.2

RR5-15.1

RR5-15.2

RR5-16.1

RR5-16.2

RR5-17.1

RR5-17.2

RR5-17.3

RR5-17.4

RR5-18.1

RR5-18.2

RR5-18.3

RR5-19

RR5-20

RR5-26.2

RR5-28.2

RR5-43 Activation with Old Service Provider Authorization

RR5-44

RR5-45

RR5-46

RR5-47

RR5-48

RR5-49

RR5-54

RR5-61

RR5-65

RR5-72

RR5-80

RR5-81.2

RR5-82.2

RR5-86

RR5-87

RR5-99

RR5-100

RR5-101

RR5-108

RR5-131

RR5-132

RR5-133

RR5-134

RR5-135

RR5-140 (moved to RR6-205)

RR5-141 (moved to RR6-206)

RR5-142 (moved to RR6-207)
RR5-146
RR5-148
RR5-176
R6-1
R6-2.1
R6-2.2
R6-3
R6-4.1
R6-4.2
R6-4.3
R6-5.1
R6-5.2
R6-6.1
R6-6.2
R6-7.1
R6-7.2
R6-8.1
R6-8.2
R6-9.1
R6-9.2
R6-9.3
R6-10.1
R6-10.2
R6-10.3
R6-11
R6-12
R6-13
R6-14.1
R6-14.2
R6-15.1
R6-15.2
R6-15.3
R6-16.1
R6-16.2
R6-17.1
R6-17.2

R6-17.3

R6-18.1

R6-18.2

R6-18.3

R6-19

R6-20.1

R6-20.2

R6-20.3

R6-21

R6-29.1

R6-29.2

R6-30.3

R6-31

R6-32

R6-33

R6-34

RR6-6 (Duplicate – refer to R10-10.1)

RR6-7 (Duplicate – refer to R10-10.1)

RR6-10

RR6-11 (Duplicate - refer to RX6-2.5)

RR6-12 (moved to RX6-2.6)

RR6-74

RR6-76

RR6-78

RR6-119

RR6-120

RR6-121

RR6-143

RR6-181

RX6-3.1

R7-11 (Duplicate – refer to R7-10)

R7-17 (Duplicate – refer to R7-15)

R7-30 (Duplicate – refer to R7-10)

R7-45 (Duplicate – refer to R7-47)

R7-59 (Duplicate – refer to R7-53.3)

R7-62.1 (Duplicate – refer R7-12)

R7-62.2 (Duplicate – refer to R7-12)

R7-71.1

R7-94.2

R7-101.1

R7-101.2 (Duplicate - refer to R7-91.1)

R7-101.3 (Duplicate - refer to R7-91.2)

R7-101.4 (Duplicate - refer to R7-91.3)

R7-101.5 (Duplicate - refer to R7-91.4)

R7-105.1 (Duplicate – refer to R7-97 and R7-98)

R7-107.3

R7-109.1

R7-109.2

R7-110.2 (Duplicate – refer to R7-107.2)

RR7-2

R8-1

R8-2.1

R8-2.2

R8-4

R8-5.1

R8-5.2

R8-6.2

R8-7.1

R8-7.2

R8-7.3

R8-8

R8-13

R8-14.1

R8-14.2

R8-16.2

R8-16.3

R8-16.4

R8-18 (Duplicate – refer to R8-7.3)

R8-24 (Duplicate – refer to R9-2)

RR8-37 (Duplicate – refer to RR6-242)

R9-7

R9-8 (Duplicate – refer to R9-2)

R9-12.3 (Duplicate – refer to RX9-5 number 20)

R9-13 (Duplicate – refer to R9-2)

RR9-5

RR9-6

RN10-1

R10-15

R10-17

R11-7 (Duplicate – refer to RX11-5)

Appendix H. Release Migration

This section contains a list of requirements (in the format Rel3-seq #) that are specific to the NPAC SMS migration from Release 2 0 to Release 3 0 Once the NPAC SMS has migrated all applicable production data to the new release, these requirements will expire, and will no longer be required functionality for the NPAC SMS

Rel3-1 National Number Pooling Migration – Conversion of Blocks for 1.4 Pooling

NPAC SMS shall provide a mechanism for Pooled Data in a pre-EDR environment, to be converted to Pooled Data in an EDR environment, prior to the live date for the National Number Pooling Release in the NPAC SMS

Note: The Subscription Versions with LNP Type of POOL will remain in the NPAC SMS, and a corresponding NPA-NXX-X and EDR Block will be created in the NPAC SMS, but will not be broadcast over the Interface (Previously M-10)

Rel3-2 National Number Pooling Migration – Setting of NPA-NXX-X Indicators

NPAC SMS shall provide a mechanism for the NPAC Customer SOA NPA-NXX-X Indicator and the NPAC Customer LSMS NPA-NXX-X Indicator, in the NPAC Customer Data Model, to be set for all Service Providers, prior to the live date for the National Number Pooling Release in the NPAC SMS (Previously M-20)

Rel3-3 National Number Pooling Migration – Setting of EDR Indicators

NPAC SMS shall provide a mechanism for the NPAC Customer LSMS EDR Indicator, in the NPAC Customer Data Model, to be set for all Service Providers, prior to the live date for the National Number Pooling Release (Previously M-30)